

PUBLIC HEALTH DEPARTMENT.

REPORT

ON THE HEALTH OF THE

CITY OF LIVERPOOL

DURING THE YEAR

— 1934 —

BY

W. M. FRAZER, M.D., CH.B., M.Sc., D.P.H. BARRISTER-AT-LAW.

Medical Officer of Health.



LIVERPOOL.

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Staff of the Public Health Department.

1934.

Medical Officer of Health :

W. M. FRAZER, M.D., M.Sc., D.P.H., Barrister-at-Law.

Deputy Medical Officer of Health :

C. O. STALLYBRASS, M.D., B.S., M.R.C.S., L.R.C.P., D.P.H.

Senior Assistant Medical Officer of Health :

B. T. J. GLOVER, M.D., Ch.B., D.P.H.

Assistant Medical Officer of Health :

T. R. ROBERTON, M.B., Ch.B., D.P.H.

Maternity and Child Welfare.

Assistant Medical Officer of Health and Inspector of Midwives : RUBY E. BELL,
M.B., Ch.B., M.R.C.S., L.R.C.P., D.P.H.

Twenty-nine part-time Clinic Medical Officers.

Ninety Health Visitors, etc.

Seventeen Probationer Health Visitors.

Three Assistants to Inspector of Midwives.

Two Ophthalmia Neonatorum Nurses.

Superintendent and Forty-seven Assistants at Infant Milk Centres

Six Assistants at Cleansing Stations.

Day Nurseries, Maternity Home and Carnegie Welfare Centre.

Six Matrons.

Ten Deputy Matrons and Sisters.

Thirty-one Nurses and Probationers.

Forty-seven Domestic Staff.

Tuberculosis.

Chief Assistant Tuberculosis Officer : J. P. CLARKE, M.R.C.S., L.R.C.P., D.P.H.

Assistant Tuberculosis Officers at Institutes : W. H. BUTLER, M.C., M.B., Ch.B.,
M.R.C.S., L.R.C.P., D.P.H.

R. JACKSON, M.R.C.S., L.R.C.P.,
D.P.H.

J. A. RUSHWORTH, M.R.C.S.,
L.R.C.P., D.P.H.

Seven Nurses at Tuberculosis Institutes.

Venereal Diseases.

Senior Medical Officer : A. O. ROSS, M.D., Ch.B., D.P.H. (part-time).

Assistant Medical Officers :—

E. E. PREBBLE, M.D., Ch.B., M.R.C.S., L.R.C.P. (part time).

E. T. BAKER-BATES, M.D., M.R.C.P. (Lond.) (part time).

A. A. FITCH, M.R.C.S., L.R.C.P. (part time).

A. R. GRAHAM M.B., Ch.B. (appointed for 1 year).

MARY G. MASTERTON, M.B., Ch.B. (appointed for 1 year).

Six Medical Orderlies.

One Sister.

Two Nurses.

Infectious Disease Hospitals, and Sanatoria.

Fazakerley Hospitals.

Medical { C. RUNDLE, M.D., M.R.C.S., L.R.C.P., D.P.H. (to Aug. 12th).
Superintendent { A. E. HODGSON, M.D., Ch.B., D.P.H. (from Aug. 13th).
Senior Resident Medical Officer : E. A. BURNS, M.D., B.Ch., B.A.O.
Assistant Resident Medical Officers : C. ABERNETHY, M.B., Ch.B., D.P.H.
L. DENIL, M.B., Ch.B., D.P.H.
T. SEAGER, M.B., Ch.B., M.R.C.S.,
L.R.C.P. (from Oct. 1st).

City Hospital, North.

Visiting Physician : R. I. RICHARDSON, M.B., C.M., J.P.

Resident Medical Officer : P. P. FOX, M.B., Ch.B., D.P.H. (to June 30th).
J. A. JONES, M.B., Ch.B. (from Aug. 1st).

City Hospital, South.

Visiting Physician : C. O. STALLYBRASS, M.D., B.S., M.R.C.S., L.R.C.P.,
D.P.H. (to June 15th).
E. A. BURNS, M.D., B.Ch. B.A.O. (from June 16th).
Resident Medical Officer : M. E. BIRCH, M.B., Ch.B. (to March 11th).
H. JONES, M.B., B.S. (from April 2nd).

City Hospital, East.

Visiting Physician : C. O. STALLYBRASS, M.D., B.S., M.R.C.S., L.R.C.P.,
D.P.H. (to June 15th).
E. A. BURNS, M.D., B.Ch., B.A.O. (from June 16th).
Resident Medical Officer : FRANCES WEIGHTMAN, M.B., Ch.B., D.P.H.

Fazakerley Sanatorium.

Medical { C. RUNDLE, M.D., M.R.C.S., L.R.C.P., D.P.H. (to Aug. 12th).
Superintendent { W. CRANE, M.D., B.Ch., B.A.O., D.P.H. (from Aug. 13th).
Senior Resident Medical Officer : V. C. CORNWALL, M.B., Ch.B., M.R.C.S.,
L.R.C.P. (from Oct. 1st).
Resident Medical Officers : B. G. ELLIOTT, L.R.C.P., L.R.C.S. (to Oct. 13th).
H. G. EVANS, M.B., Ch.B. (from Oct. 18th).
A. R. GRAHAM, M.B., Ch.B., D.P.H. (from Nov. 1st).

Broad Green Sanatorium.

Medical Superintendent : O. F. THOMAS, M.R.C.P., D.P.H.

Senior Resident Medical Officer : A. J. WALSH, M.B., Ch.B., D.P.H.

Assistant Resident Medical Officer : MARGARET FERRIER, M.B., Ch.B. (to
April 30th).

T. L. HUGHES, M.D. (from May 4th).

J. A. JONES, M.B., Ch.B. (to July 31st).

E. SMITH, M.D., D.P.H. (from Aug. 8th).

Cleaver Sanatorium.

Matron : Miss D. KELSALL.

Visiting Medical Officer : J. B. YEOMAN, M.D., C.M., F.R.C.S., D.P.H.

General Hospitals.

Walton Hospital.

Master : C. A. W. ROBERTS, M.B.E.

Medical Officer : H. H. MacWILLIAM, B.A., M.B., B.Ch., B.A.O., D.P.H.

Matron : Mrs. M. M. ROBERTS, M.B.E.

One Deputy Medical Officer.

Two Senior Resident Assistant Medical Officers.

Nine Junior Resident Assistant Medical Officers (appointed for 1 year).

Mill Road Infirmary.

Medical Superintendent : H. CARTER, M.B., Ch.B., F.R.C.S.

Matron : Miss G. RIDING.

One Senior Resident Assistant Medical Officer.

Six Junior Resident Assistant Medical Officers (appointed for 1 year).

Smithdown Road Hospital.

Medical Superintendent : J. P. STEEL, M.D.

Matron : Miss F. M. BROWN.

One Deputy Medical Superintendent.

One Senior Resident Assistant Medical Officer.

Six Junior Resident Assistant Medical Officers (appointed for 1 year).

Children's Hospitals.

Alder Hey Hospital.

Medical Superintendent : W. E. CROSBIE, M.B., B.S., B.A.O., D.P.H.

Matron : Miss M. CAVILL.

One Senior Resident Assistant Medical Officer.

Five Junior Resident Assistant Medical Officers (appointed for 1 year).

Olive Mount Children's Hospital.

Matron : Miss A. B. HARDY.

Medical Superintendent : W. E. CROSBIE, M.B., B.S., B.A.O., D.P.H.

Resident Assistant Medical Officer : RITA HENRY, M.B., Ch.B., B.A.O.

Mixed Institutions.

Belmont Road Institution.

Acting Master : Mrs. M. E. CARR.

Visiting Medical Officer : D. G. HENRY, M.B., B.Ch.

One Assistant Medical Officer.

Kirkdale Homes.

Master : N. HUGHES.

Visiting Medical Officer : T. J. MARNER, M.B., B.Ch., B.A.O.

Certified Institution for Mentally Defective Children.

Seafeld House.

Superintendent : A. ARMITAGE.

Visiting Medical Officer : T. D. WILLIAMS, M.B., B.S.

Homes.

Fazakerley Cottage Homes.

Superintendent and Head Master : R. J. FROOM, B.A.

Visiting Medical Officer : R. I. GREENSHIELDS, M.B., B.Ch.

Working Boys' Home.

Superintendent : J. T. D. LEWIS.

Vaccination Officers.

No. 1 District : R. R. RENDELL.

No. 2 District : S. E. REDMOND.

No. 3 District : J. C. HOWARTH.

No. 4 District : R. JACKSON.

Sanitary Staff.

Chief Sanitary Inspector : D. B. COWDEN (to March 31st).

G. BINNS (from May 1st).

Deputy Chief Sanitary Inspector : W. PARKER,

Fifty-three Sanitary Inspectors.

Nine Inspectors of Lodging and Sub-let Houses.

Four Factory and Workshop Inspectors.

Three Shops Act Inspectors.

One Canal Boat Inspector.

Eleven Ratcatchers.

Smoke Inspectors.

Chief Smoke Inspector : C. M. OPIE.

Two Assistant Smoke Inspectors.

Food Inspection.

Chief Food Inspector : J. D. ALLAN.

Ten Food Inspectors.

Chief Inspector Food and Drugs : A. GLEAVE.

Three Inspectors.

Inspectors of Dairies and Cowsheds : D. THOMAS.

D. RUSSELL.

Ambulance and Disinfecting Staff.

Chief Inspector : H. CORBRIDGE.

Deputy Chief Inspector : T. C. CAMPSIE.

Eight Inspectors.

Twelve Motor Ambulance Drivers.

Two Inspectors in charge of Disinfecting Stations.

Forty Workmen.

Three Mortuary Attendants.

Chief Clerk, Public Health Department : J. McCOY.

Senior Clerk, Hospitals and Institutions : B. S. BENNETT.

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- C. Abridged List of Causes of, and Ages at, Death.
- D. Table showing Deaths from Stated Causes at various Ages, of Infants under one year of age.
- E. Table of Notifiable Diseases other than Tuberculosis.
- F. Detailed Statement of Deaths registered in the City.

PUBLIC HEALTH DEPARTMENT,
MUNICIPAL ANNEXE,
DALE STREET, LIVERPOOL, 2.
June, 1935.

MY LORD MAYOR, LADIES AND GENTLEMEN,

I have the honour to submit to you herewith my fourth Annual Report, relating to the health of the City of Liverpool during the year 1934.

I desire to acknowledge figures and information for inclusion in the Report from the Town Clerk, the City Treasurer, the City Engineer, the City Analyst, the City Bacteriologist, the City Building Surveyor, the Director of Housing and the Chief Veterinary Officer. I am also indebted to the Chief Officers of the City Hospitals, Sanatoria and Institutions for reports and statistics received, as well as to the officers of the voluntary hospitals and various charitable institutions and others who have supplied valuable information for inclusion in the Report.

A perusal of the information from such diverse sources, scattered throughout the following pages, affords a good indication of the co-operation which exists between the Corporation's Public Health Department and the many other agencies, official and voluntary, in the City which affect, directly or indirectly, the health of the community and the individual.

Any survey of the health of a sanitary district such as is contained in the present Report should commence with a discussion of the total population in the area and the birth-rates and death-rates, since such figures prescribe the extent of the authority's Public Health activities and provide an indication of the major problems which require consideration. Commencing, therefore, with the salient vital statistics of the City we find that in 1934 the estimated mid-year population was 866,013, this figure being the same as last year, no allowance having been made for the excess of births over deaths of 6,254, owing to the migration of part of the population to the 1,856 newly-erected houses on the Huyton Farm and Knowsley Estates outside the city boundary.

The total number of births was 17,593, giving a birth-rate per 1,000 of the population of 20·3 as contrasted with a figure of 19·5 for the previous year. The total number of deaths from all causes was 11,319, giving a general death-rate of 13·1 as compared with 14·4 in 1933. Infantile mortality showed a rate of 81 per 1,000 births, as contrasted with the previous year's rate of 98. Such are the salient vital statistics for the year 1934, which has been outstanding in many instances, both the general death rate of 13·1 per 1,000 of the population and the infant mortality rate of 81 per 1,000 births being the lowest ever recorded in the city, and although the birth-rate of 20·3 per 1,000 of the population is a slight increase over that of 1933 the figure is still below the average of the last five years, namely, 21·3. The number of cases of infectious disease notified to the Health Department was over 500 less than the previous year, but the greatest diminution was seen in the number of deaths from epidemic diarrhoea in children under 1 year: 135 deaths were certified to this disease, this being the lowest figure ever recorded, that is, less than half that of 1933, namely, 272.

The number of deaths from cancer is increasing year by year, and in the year under review reached the heavy rate of 1·47 per thousand of the population. It is to be noted that this increase, which has now been going on for many years, has occurred mainly amongst males, and is most marked in the later years of life. It is not to be explained entirely by the increased average age of the population, although this is evidently an important factor, nor by improved methods of diagnosis which vary but little in efficiency from one year to the next, but is a real increase affecting especially the stomach and other internal organs. In view of the marked tendency to a greater average age of the population arising from a lessening birth-rate and lowered death-rate it appears inevitable that the vital statistics of the country as a whole will have to record in future years a gradual increase in the proportion of deaths due to this disease unless some means of prevention shall be discovered in the meantime.

On October 1st, with the approval of the Minister of Health, a new registration scheme formulated by the City Council and the Registrar-General came into operation. The City has been divided into two main registration districts, Liverpool South District and Liverpool North

District, with various sub-districts. The statistics for this year have been based on the old registration districts, but in future years they will be based on the new registration districts.

The work in connection with the demolition of insanitary property which had been the subject of a report by the Medical Officer of Health to the Housing Committee in 1933, and which was printed in last year's Report, has progressed on the lines indicated in that report. During 1934 the Medical Officer of Health made representations to the City Council in respect of approximately 2,757 insanitary houses.

Considerable progress has been made in the past year in the equipping and staffing of the Hospital services transferred to the Corporation by the Local Government Act of 1929. The augmentation of the medical staffs, both specialist and residential, and of the nursing staffs, has resulted in greater use being made of the hospital beds, but more modern continuation departments are urgently needed to relieve the wards. The erection of a continuation department at Smithdown Road Hospital is well in hand and plans are being prepared for the erection of a continuation department at Mill Road Infirmary. Some idea of the growth of the work in the hospital services is shown by an increase of 13,072 radiological and 27,972 pathological examinations having been made in 1934, compared with the corresponding figures for 1933.

In order to render more efficient the medical services of the City, closer co-operation is still to be desired with the voluntary hospitals, and, to this end, meetings were held during the year with representatives of the voluntary hospitals and the Liverpool Maternity Hospital.

A perusal of the pages of the present Report will suffice to indicate the large amount of work performed yearly by the Corporation's health services. The volume of work here described could not have reached its present standard of usefulness were it not for the high ideals of duty which animate the medical, inspectorial, nursing and clerical staffs of the Department, and I wish to acknowledge, in cordial terms, my great appreciation of their co-operation with me during the past year.

I would also like to be permitted to express my warm thanks to the Chairmen and members of the Corporation Committees concerned with

XX.

the Public Health Department for the courtesy and kindness with which they have considered the various suggestions and recommendations made to them.

I am,

Your obedient Servant,

W. M. FRAZER,

Medical Officer of Health.

VITAL STATISTICS.

CITY OF LIVERPOOL.

SUMMARY

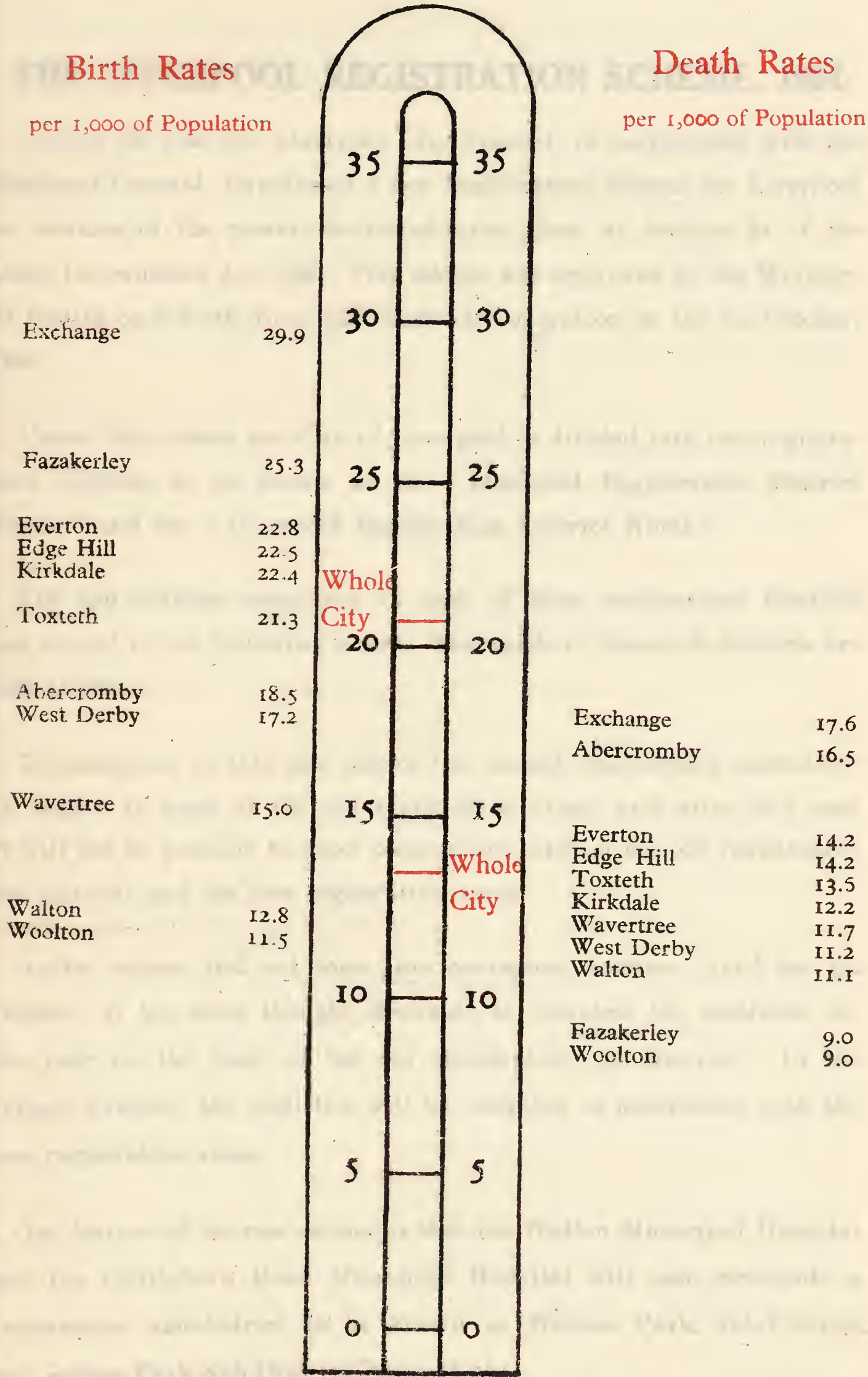
OF

VITAL STATISTICS FOR 1934.

Area (land and inland water)	...	...	...	...27,321	Acres (43 sq. miles)	
Population (Census 1931)	...	...	...	...	855,688	
do. (estimated to middle of Year, 1934)	...	...	...	...	886,013	
Live Births...	...	...	17,593	Live Birth rate	20·3	} per 1,000 of the population
Deaths (all causes)	...	...	11,319	Death rate	13·1	
Do. (under 1 year of age)	1,418			Infant Mortality rate		81 per 1,000 births.	
Do. from :—							
Seven principal Zymotic diseases	}	780		Zymotic death rate	}	0·90	} per 1,000 of the population
Pulmonary Tuberculosis	}	867		Pulmonary Tuberculosis death rate	}	1·00	
Other forms of Tuberculosis	}	129		Non Pulmonary Tuberculosis death rate	}	0·15	
Respiratory diseases		1,676		Respiratory death rate	}	1·93	
Cancer	...	...	1,276	Cancer death rate	}	1·47
Maternal Deaths	...	...	51	Maternal Mortality rate	}	2·79 per 1,000 live and still births.

CITY OF LIVERPOOL.

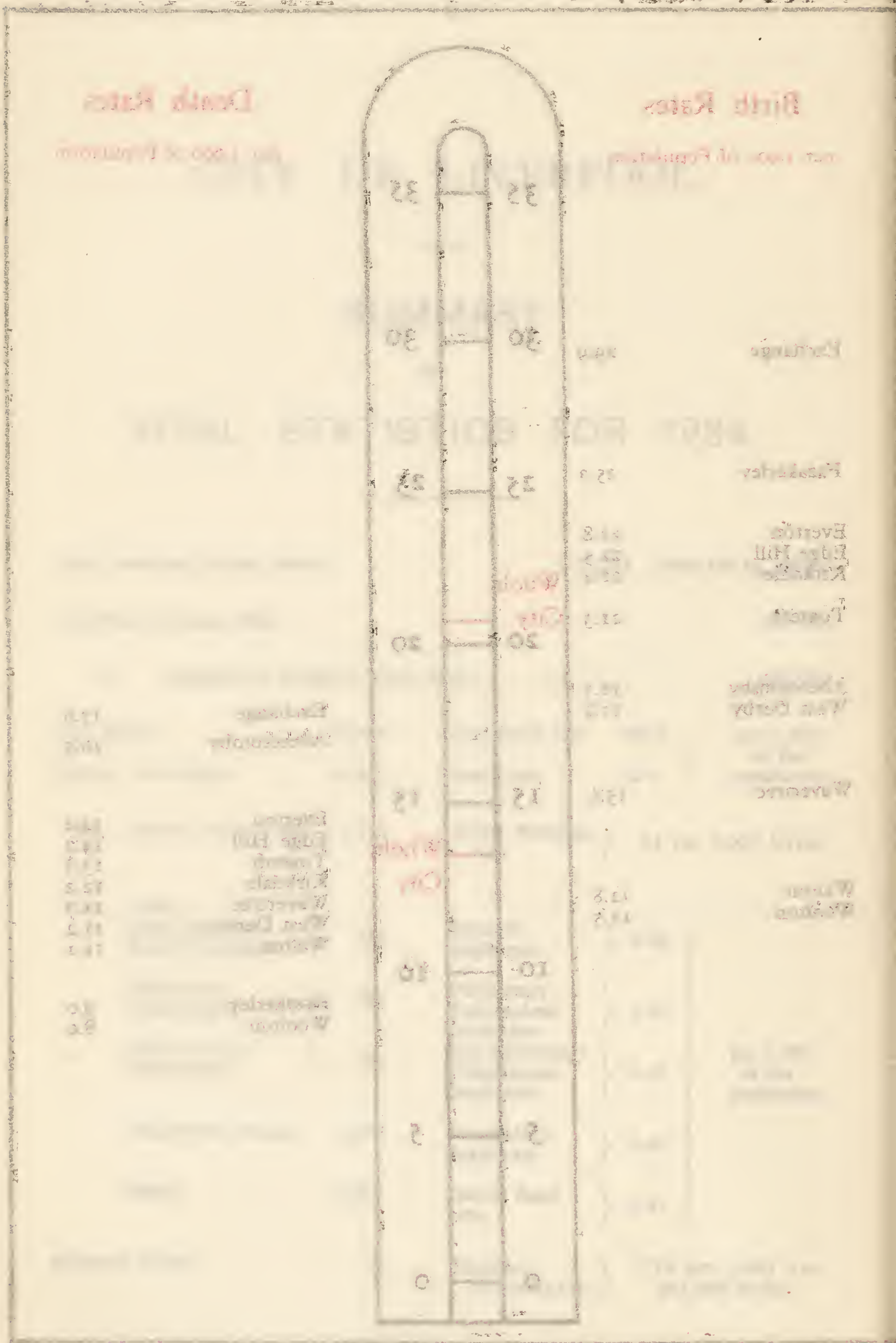
COMPARATIVE VIEW OF THE BIRTH AND DEATH RATES PER 1,000 POPULATION
IN THE DIFFERENT DISTRICTS OF THE CITY DURING THE YEAR 1934.



DEATHS IN PUBLIC INSTITUTIONS ARE TRANSFERRED TO THE DISTRICTS
FROM WHICH THE PATIENTS CAME.

CITY OF LIVERPOOL

COMPARATIVE VIEW OF THE BIRTH AND DEATH RATES FOR THE YEAR 1914
IN THE SEVERAL DISTRICTS OF THE CITY DURING THE YEAR 1914



DEATHS IN PUBLIC INSTITUTIONS ARE TRANSFERRED TO THE DISTRICT
FROM WHICH THE PATIENTS CAME

THE LIVERPOOL REGISTRATION SCHEME, 1934.

During the year the Liverpool City Council, in conjunction with the Registrar-General, formulated a new Registration Scheme for Liverpool in exercise of the powers conferred upon them by Section 24 of the Local Government Act, 1929. This scheme was approved by the Ministry of Health on the 5th June, and came into operation on the 1st October, 1934.

Under this scheme the City of Liverpool is divided into two registration districts to be known as the "Liverpool Registration District South" and the "Liverpool Registration District North."

The sub-districts comprised in each of these registration districts are set out in the following pages. The wards in these sub-districts are also shown.

The adoption of this new scheme has caused considerable alterations in regard to some of the old registration areas, and after this year it will not be possible to make comparison between the old registration sub-districts and the new registration areas.

As the scheme did not come into operation, however, until the 1st October, it has been thought desirable to complete the statistics for the year on the basis of the old registration sub-districts. In the future, however, the statistics will be compiled in accordance with the new registration areas.

One feature of the new scheme is that the Walton Municipal Hospital and the Smithdown Road Municipal Hospital will each constitute a registration sub-district to be known as Walton Park Sub-District and Sefton Park Sub-District, respectively.

**Registration Scheme under Sec. 24 of the Local Government
Act, 1929, for the County Borough of Liverpool.**

SUB-DISTRICTS COMPRISED IN THE REGISTRATION DISTRICT OF LIVERPOOL
SOUTH.

Sub-District.	Description.
1. Exchange	Exchange, North Scotland, South Scotland and Vauxhall Wards.
2. Abercromby	Abercromby Ward.
3. St. Peter's	Gt. George, St. Peter's, Castle Street, St. Anne's and Brunswick Wards.
4. Toxteth Park	Dingle, Sefton Park West, Princes Park and Granby Wards.
5. Sefton Park	That part of the Sefton Park East Ward comprising the Smithdown Road Hospital premises.
6. Edge Hill	Sefton Park East Ward (except the part thereof which is included in the Sefton Park Sub-district); Edge Hill, Kensington, Low Hill and Wavertree West Wards.
7. Wavertree	Wavertree, Garston, Allerton, Aigburth, Childwall, Much Woolton and Little Woolton Wards.

SUB-DISTRICTS COMPRISED IN THE REGISTRATION DISTRICT OF LIVERPOOL
NORTH.

Sub-District.	Description.
1. Fazakerley	Croxteth and Fazakerley Wards.
2. Walton.....	Warbreck Ward (except the part thereof which is included in the Walton Park Sub-district); Walton and Anfield Wards.
3. Walton Park	That part of the Warbreck Ward comprising the Walton Hospital premises.
4. Kirkdale	Kirkdale and Sandhills Wards.
5. Netherfield	Netherfield, St. Domingo and Breckfield Wards.
6. Everton	Everton Ward.
7. West Derby.....	Fairfield, Old Swan and West Derby Wards.

The following table shows the populations according to the 1931 Census, of the two new Registration Districts, the fourteen Sub-Registration Districts and the Municipal Wards comprised in those Districts.

Registration Districts.	Sub-Registration Districts.	Municipal Wards.	Census Populations, 1931.	
LiverpoolSouth.....	1. Exchange	Exchange N. Scotland S. Scotland Vauxhall	3,091 21,381 21,372 8,635	54,479
	2. Abercromby ...	Abercromby	23,427	23,427
	3. St. Peters' ...	Gt. George St. Peter's..... Castle Street..... St. Anne's Brunswick	12,995 5,567 366 20,944 22,016	61,888
	4. Toxteth Park	Dingle Sefton Park W. ... Princes Park Granby	35,235 13,226 21,570 23,419	93,450
	5. Edge Hill ...	Sefton Park E. ... Edge Hill Kensington Low Hill Wavertree W.	19,885 31,008 24,588 26,345 18,881	120,707
	6. *Sefton Park			
	7. Wavertree ...	Wavertree Garston and Speke Allerton Aigburth Childwall Much Woolton ... Little Woolton ...	30,702 17,646 9,068 16,122 5,986 5,200 1,470	86,194
LiverpoolNorth	1. Fazakerley ...	Croxteth Fazakerley	25,024 25,940	50,964
	2. Walton	Warbreck Walton Anfield	28,267 36,510 24,261	89,038
	3. †Walton Park			
	4. Kirkdale	Kirkdale Sandhills	40,389 24,031	64,420
	5. Netherfield ...	Netherfield St. Domingo Breckfield	29,257 27,182 22,273	78,712
	6. Everton	Everton	32,602	32,602
	7. West Derby ...	Fairfield Old Swan West Derby	22,630 35,706 41,855	100,191
				856,072

* Comprising Smithdown Road Hospital only.

† Comprising Walton Hospital only.

POPULATION.

The following table shows the increase of births over deaths, i.e., the natural increase of population for the City of Liverpool during the last ten years:—

Year.	Excess of Births over Deaths.
1925	7,690
1926	8,166
1927	7,146
1928	7,688
1929	5,707
1930	7,593
1931	6,383
1932	6,779
1933	4,485
1934	6,254
Average 1925/34	6,789

It will be observed that in spite of the low figure for 1933 a high average rate of natural increase for Liverpool has been maintained. During the decennial period 1921/1930 the Registrar-General intimated that the rate of natural increase of population was 9·7 per cent., but that this was subject to a reduction of 3·4 per cent. for migration, or approximately one-third of the total natural increase. On this basis the net increase of population during 1934 was approximately 4,000.

A new factor which has, however, arisen in estimating the population is the erection of houses on two new estates situated outside the city boundary—the Huyton Farm Estate (1,016 houses) and the Knowsley Estate (840 houses), in consequence of which a large number of persons have left Liverpool to reside outside the city area.

For this reason no increase in population was made in the estimate for the year 1934, the same figure being adopted as for the year 1933, viz., 866,013.

Populations, Births and Deaths.

The following table shows the population, number of births and deaths, and the rate per 1,000 in each district of the city for the year 1934 :—

Districts	Estimated Mid-Year Population 1934.	BIRTHS.		DEATHS.	
		Number of Births.	Rate per 1,000.	Number of Deaths.	Rate per 1,000.
EXCHANGE	72,822	2,180	29.9	1,285	17.6
ABERCROMBY	41,496	768	18.5	684	16.5
EVERTON	108,963	2,485	22.8	1,552	14.2
KIRKDALE	63,798	1,429	22.4	881	12.2
EDGE HILL	80,007	1,799	22.5	1,135	14.2
TOXTETH	131,898	2,811	21.3	1,781	13.5
WALTON	90,888	1,165	12.8	1,007	11.1
WEST DERBY	105,304	1,811	17.2	1,181	11.2
WAVERTREE	103,871	1,557	15.0	1,212	11.7
FAZAKERLEY	59,386	1,501	25.3	533	9.0
WOOLTON	7,580	87	11.5	68	9.0
	866,013	17,593	20.3	11,319	13.1

The following table shows the population, births and deaths, with birth and death rates during the last 20 years (1915 to 1934) :—

Year.	Estimated Mid-Year Population.	No. of Births.	Birth Rate per 1,000 of Population.	No. of Deaths.	Death Rate per 1,000 of Population.
1915	779,535	21,586	27.7	14,478	18.6
1916	785,657	20,679	26.3	13,943	17.7
1917	791,828	17,906	22.6	13,093	16.5
1918	798,048	17,133	21.5	15,267	19.1
1919	804,316	18,694	23.2	13,283	16.5
1920	810,632	25,039	30.9	12,852	15.8
1921	817,000	21,904	26.8	11,666	14.3
1922	820,663	21,467	26.1	11,992	14.6
1923	824,342	20,695	25.1	11,405	13.8
1924	828,038	20,559	24.8	11,390	13.7
1925	831,750	19,592	23.6	11,902	14.3
1926	835,479	19,792	23.7	11,626	13.9
1927	839,223	19,020	22.7	11,874	14.1
1928*	845,093	19,120	22.6	11,432	13.5
1929	848,873	18,888	22.2	13,181	15.5
1930	852,669	18,881	22.1	11,288	13.2
1931	856,483	18,626	21.7	12,243	14.3
1932*	861,935	18,149	21.0	11,370	13.2
1933	866,013	16,929	19.5	12,444	14.4
1934	866,013	17,593	20.3	11,319	13.1

* City area extended

BIRTHS.

The number of live births recorded during the year 1934 within the city was 17,593, equal to a rate of 20·3 per 1,000 of the population, the average of the previous five years (1929-1933) being 21·3. Of the total births, 8,982 were males, and 8,611 were females. The number of illegitimate live births was 779, or 4·4 per cent. of the total births, 408 being males and 371 females.

The Registrar-General intimated that 338 births (192 males and 146 females) should be added to and 989 births (515 males and 474 females) deducted from the total number of births registered in the city. These corrections for transferable births having been made, the net figures are as given above.

The birth rate in the City of Liverpool was considerably above the average of the great towns, which was 14·7 per 1,000 of the population, as well as of England and Wales taken as a whole, where the rate was 14·8 per 1,000.

The number of still-births registered was 685, as shown in the following table. This represented 37·5 per thousand of the total (live and still) births registered and 0·79 per 1,000 of the estimated population. The total birth rate therefore (live and still births) was equal to 21·1 per 1,000 of the population.

Live Births.

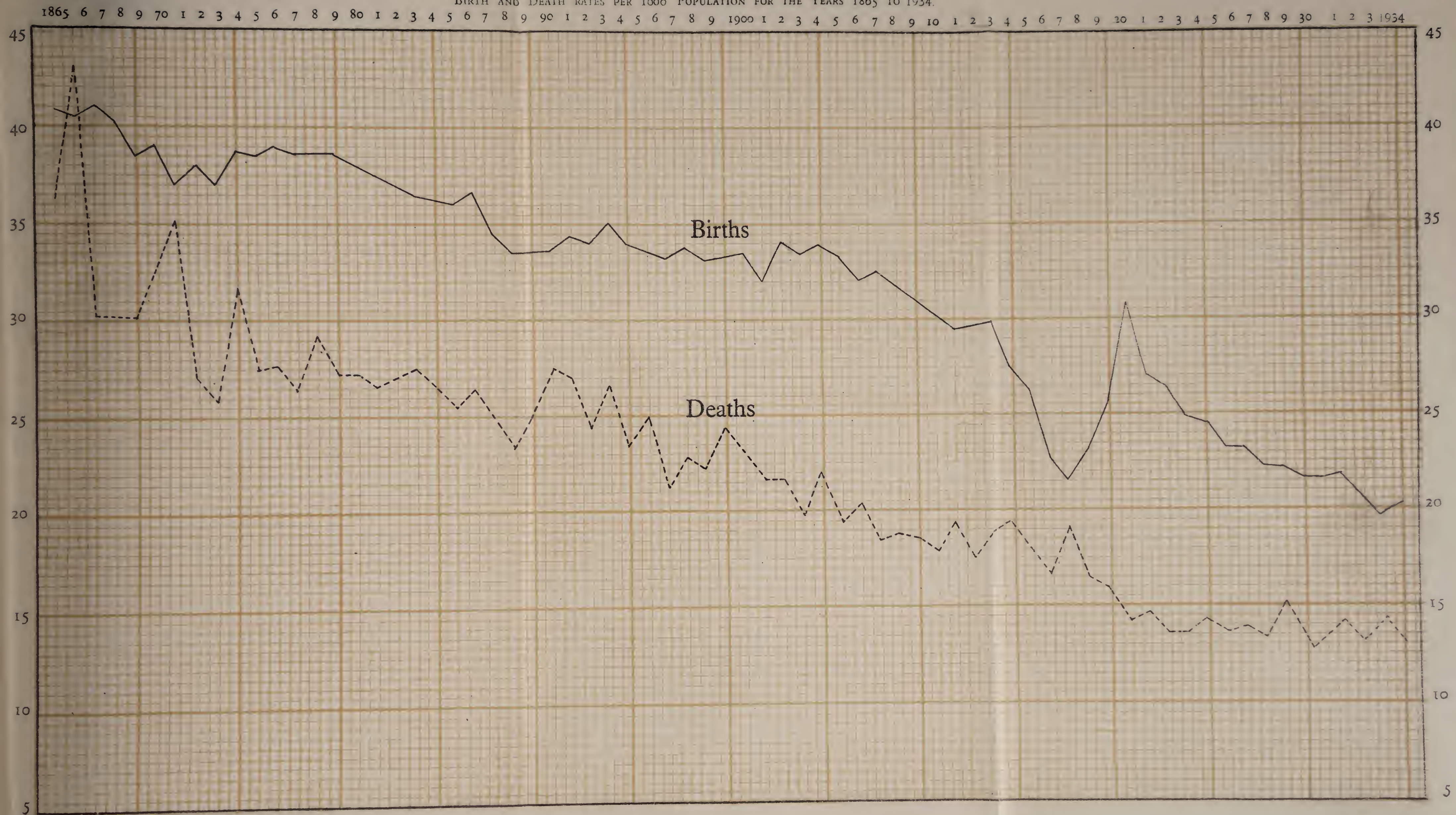
	Males.	Females.	Total.
Legitimate	8,574	8,240	16,814
Illegitimate	408	371	779
	8,982	8,611	17,593

Still-Births.

	Males.	Females.	Total.
Legitimate	344	310	654
Illegitimate	17	14	31
	361	324	685

CITY OF LIVERPOOL.

BIRTH AND DEATH RATES PER 1000 POPULATION FOR THE YEARS 1865 TO 1934.



100

DEATHS.

The total deaths registered in the city during the year numbered 12,016. Of these deaths 1,062 were those of non-residents, chiefly occurring in public institutions, nursing homes, etc., and these were excluded from the returns. On the other hand, the deaths of 365 Liverpool residents which occurred in other districts and in the County Mental Hospitals, etc., were included in the returns for the year.

This gave a corrected number of deaths of 11,319, being 5,982 males and 5,337 females, for the year, equal to a death rate of 13·1 per 1,000 of the population, which is the lowest death rate recorded for the City of Liverpool. The death rates for England and Wales and the great towns during the year were identical, namely, 11·8.

During the five years (1911-1915) the average death rate was 18·6 per 1,000, whilst during the five years (1929-1933) the average rate was 14·1 per 1,000.

A comparison of the table on page 17 with previous reports will show that this improvement is not confined to the infant mortality nor to the mortality at any particular age, but is a general improvement affecting the whole of the population. It is plain that any variation in the *proportions* living at the respective age-periods would affect the death rate, and this with absolutely no change whatever in the condition of municipal sanitation. These proportions, however, vary very slowly and very slightly year by year in each district, so that yearly comparisons of the mortality rate of the same district may be fairly made, but one district should not be put into comparison with another unless the age and sex conditions of each are known, and the necessary corrections made.

Causes of Death.

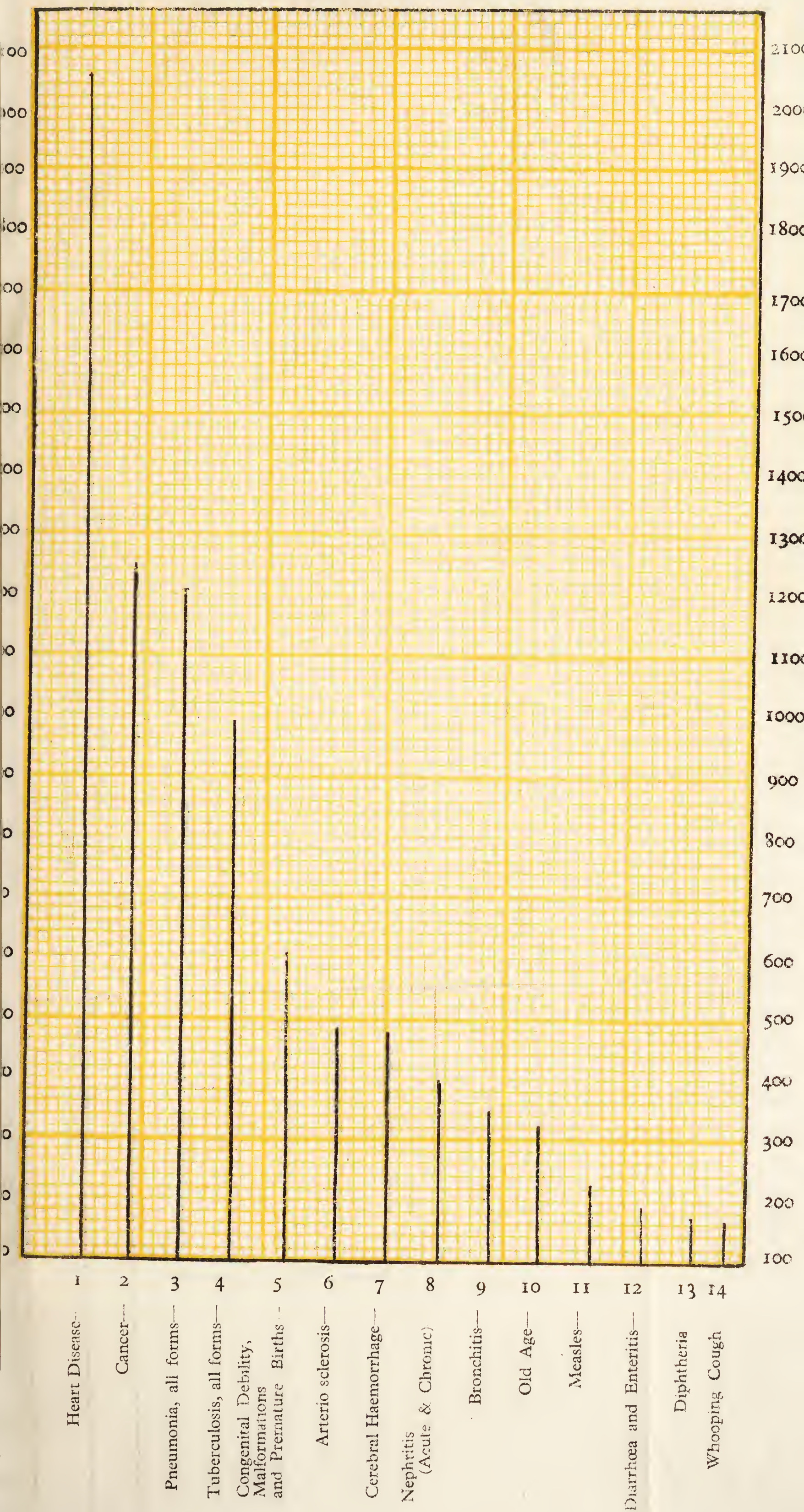
The Short List of Causes of Death appears in Appendix C. Fuller details as to the causes of death are set out in Appendix F; in the same table the various age periods at which deaths took place and the districts in which they occurred will also be found.

The following table gives a classification of the causes of death during the four quarters of the year, shown under 18 classes, and the number of deaths at various age-groups :—

CLASSES.						QUARTERS.				YEAR 1934
						March	June	Sept.	Dec.	
ALL CAUSES						3,455	2,944	2,271	2,649	11,319
I. Infectious and Parasitic Diseases ...						661	588	328	315	1,892
II. Cancer and Other Tumours						338	334	310	351	1,333
III. Rheumatism and other Gen. Diseases						64	66	65	51	246
IV. Diseases of the Blood						22	18	25	18	83
V. Chronic Poisoning						—	1	1	—	2
VI. Diseases of the Nervous System ...						222	210	187	206	825
VII. Diseases of the Circulatory System ...						832	655	511	683	2,681
VIII. Diseases of the Respiratory System ...						628	428	241	379	1,676
IX. Diseases of the Digestive System ...						137	135	149	142	563
X. Diseases of the Genito-Urinary System						132	143	119	163	557
XI. Diseases of Pregnancy						16	13	10	12	51
XII. Diseases of the Skin						16	11	10	16	53
XIII. Diseases of the Bones						4	3	7	5	19
XIV. Congenital Malformations						22	23	16	21	82
XV. Diseases of Early Infancy						162	132	117	113	524
XVI. Old Age						105	89	62	69	325
XVII. Deaths from Violence						94	93	109	101	397
XVIII. Ill-defined Diseases						—	2	4	4	10
Ages at Death	{ Under 1 year					412	362	298	346	1,418
	{ 1—					341	250	116	92	799
	{ 5—					66	61	57	52	236
	{ 10—					43	36	33	29	141
	{ 15—					60	61	51	44	216
	{ 20—					83	93	65	66	307
	{ 25—					374	317	277	312	1,280
	{ 45—					885	756	616	736	2,993
{ 65—					1,191	1,008	758	972	3,929	

CITY OF LIVERPOOL.

COMPARATIVE VIEW OF THE PRINCIPAL CAUSES OF DEATH
DURING THE YEAR 1934.



COMPARATIVE FIELD OF THE ESSENTIAL DANGER OF THE
DURING THE YEAR 1934

The following tables give Comparative Statements of Vital Statistics during the years 1930, 1931, 1932, 1933 and 1934.

BIRTHS.											
		BIRTHS.					BIRTH RATES per 1,000 population.				
		1930	1931	1932	1933	1934	1930	1931	1932	1933	1934
1st quarter	...	4,800	4,623	4,963	4,631	4,831	22·5	21·6	23·0	21·4	22·3
2nd	„	4,995	4,903	4,924	4,512	4,760	23·4	22·9	22·9	20·8	22·0
3rd	„	4,703	4,789	4,535	4,361	4,586	22·1	22·4	21·0	20·1	21·2
4th	„	4,701	4,658	4,184	3,988	4,118	22·1	21·7	19·4	18·4	19·0
		19,199	18,973	18,606	17,492	18,295					
Corrected for transfers per Registrar Gen.		18,881	18,626	18,149	16,929	17,593	22·1	21·7	21·0	19·5	20·3

DEATHS.											
		DEATHS					DEATH RATES per 1,000 population				
		1930	1931	1932	1933	1934	1930	1931	1932	1933	1934
1st quarter	...	3,139	4,185	3,346	4,167	3,455	14·7	19·5	15·5	19·2	15·9
2nd	„	2,733	2,711	2,861	2,749	2,944	12·8	12·7	13·3	12·7	13·6
3rd	„	2,205	2,219	2,293	2,402	2,271	10·2	10·4	10·6	11·1	10·5
4th	„	3,211	3,128	2,870	3,126	2,649	15·1	14·6	13·5	14·4	12·2
		11,288	12,243	11,370	12,444	11,319	13·2	14·3	13·2	14·4	13·1

DEATHS OF INFANTS UNDER 1 YEAR OF AGE.											
		DEATHS.					DEATH RATES per 1,000 births registered.				
		1930	1931	1932	1933	1934	1930	1931	1932	1933	1934
1st quarter	...	369	520	482	458	412	77	112	97	99	85
2nd	„ ...	337	377	373	377	362	67	77	76	83	76
3rd	„ ...	237	329	338	402	298	61	68	75	92	65
4th	„ ...	551	514	453	418	346	117	110	108	105	84
		1,544	1,740	1,646	1,655	1,418	82	93	91	98	81

The following table shows deaths at various age periods, expressed as a percentage of total deaths, for each year 1915 to 1934 :—

Year	Under 5 years.	AT AGES—YEARS.									
		5—	10—	20—	30—	40—	50—	60—	70—	80—	
1915 ...	% 33	% 2	% 4	% 4	% 7	% 9	% 12	% 13	% 12	% 4	100
1916 ...	30	3	4	5	6	9	12	14	13	4	100
1917 ...	29	3	4	5	7	9	12	14	13	4	100
1918 ...	29	5	6	8	8	9	11	12	9	3	100
1919 ...	25	4	5	7	8	9	12	13	13	4	100
1915-1919 (average)	29	3	5	6	7	9	12	13	12	4	100
1920 ...	33	2	4	5	7	9	11	13	12	4	100
1921 ...	33	2	4	5	6	9	11	13	12	5	100
1922 ...	28	2	4	5	6	9	12	15	14	5	100
1923 ...	30	2	4	5	6	9	12	14	13	5	100
1924 ...	29	2	4	4	6	8	12	15	15	5	100
1920-1924 (average)	30	2	4	5	6	9	12	14	13	5	100
1925 ...	28	2	4	4	5	9	12	15	15	6	100
1926 ...	28	2	3	5	6	9	12	15	14	6	100
1927 ...	25	2	3	5	5	9	12	16	16	7	100
1928 ...	25	2	4	5	5	9	12	16	16	6	100
1929 ...	23	3	3	5	5	9	12	16	17	7	100
1925-1929 (average)	26	2	3	5	5	9	12	16	16	6	100
1930 ...	20	3	4	5	5	9	14	17	16	7	100
1931 ...	23	2	3	5	5	8	12	17	18	7	100
1932 ...	22	2	3	5	5	8	13	17	17	8	100
1933 ...	21	2	3	5	5	8	13	17	18	8	100
1934 ...	20	2	3	5	6	8	12	18	18	8	100
1930-1934 (average)	21	2	3	5	5	8	13	17	18	8	100

Analysis of Decline in Mortality.

The accompanying tables (pages 15 and 16) show the deaths that have occurred in the city of Liverpool during the past 64 years. These have been separated into five principal classes of disease which are likely to be affected by the activities of the Health and other Municipal Departments, namely, infective diseases, tubercular diseases, respiratory diseases (including influenza), and digestive diseases (including diarrhœa and enteritis). These classes include the greater part of the diseases of infective origin. The deaths from cancer are placed in a separate column.

Despite the very great increase in population since 1871, the population having nearly doubled since then, the actual numbers of deaths per annum have fallen from an average of 14,700 in the decennium 1871-1880 to 11,319 in the year 1934. The general death rate has fallen from 28·5 to 13·1 per thousand, a fall of more than 50 per cent.

The greatest proportional decline has been experienced in the group of infective diseases, which includes all the infectious diseases with the exception of influenza; the decline has been steady and uniform, and the deaths now registered in this group exhibit a decline of no less than 83 per cent. during the 64 years.

A similar steady decline has been shown by the tubercular diseases, which have fallen to 30·5 per cent. of the earlier figure. These deaths still account for 8·8 per cent. of the total.

In the group of respiratory diseases, although there has been a reduction in the death rate of 63 per cent., during the period under review, namely, between 1871-1880 and 1934, the decline has not been continuous; rises occurred in 1881-90 and in 1911-20, and again in 1929

and 1933, due in all cases to the prevalence of influenza. Although a marked decline in respiratory deaths has occurred, this decline is not commensurate with that recorded in deaths from all causes.

Digestive diseases, of which diarrhœa and other digestive diseases of infants form the most important section, showed at first a slight decline from 1871 to 1890; in 1891-1900 there was a rise to 107 per cent. of the rate experienced in 1871-80, taking the latter rate as equal to 100. From that time on there has been a most marked and rapid decline to 21 per cent. of the 1871-80 rate of mortality. This decline coincides in time with the great efforts that have been put forward in this city for the prevention of infantile mortality.

In contrast, however, there has been a considerable increase in the deaths from cancer during the past 64 years (see pages 15 and 16). The rate of mortality is now nearly four times as high as in the seventies of last century. This increase is, however, mainly due to the increasing longevity of the people and to the better diagnosis of the disease. The increasing proportion of persons dying in later life is well shown in the table on page 12, from which it will be seen that since 1915 the proportion of deaths at ages 70 and over has increased from 16 to 26 per cent.

If the general rate of mortality experienced in 1871-80 had prevailed during the year 1934, there would have been more than twice as many deaths as those actually recorded, viz., 24,601 instead of 11,319, a saving of 13,282 lives being thereby effected.

Deaths from certain Groups of Diseases in each decade from 1871 to 1930, and during 1931, 1932, 1933 and 1934.

Years.	(a) Infective diseases (less Diarrhoea and Influenza).	(b) Tubercular diseases.	(c) Respiratory diseases (including Influenza).	(d) Digestive diseases (including Diarrhoea).	Total Deaths from Classes (a),(b),(c) & (d)	(e) Cancer.	Total Deaths from all causes.
1871-1880	27,205	19,869	29,763	14,747	91,584	2,015	147,005
1881-1890	19,748	17,870	32,507	13,186	86,311	2,820	146,195
1891-1900	13,515	16,714	35,819	18,491	84,539	4,223	145,522
1901-1910	13,967	16,054	32,995	18,163	81,179	6,480	150,962
1911-1920	10,417	14,946	36,480	12,282	74,125	7,603	137,223
1921-1930	7,831	12,664	29,447	8,184	58,126	9,852	117,756
1931	947	1,153	2,742	658	5,500	1,128	12,243
1932	826	1,139	1,905	654	4,524	1,167	11,370
1933	808	1,157	2,466	729	5,160	1,232	12,444
1934	780	996	1,792	563	4,131	1,276	11,319

Deaths expressed as a percentage of total deaths from all causes (Proportionate Mortality).

1871-1880	19.2	13.5	20.2	10.0	62.9	1.4	100.0
1881-1890	14.1	12.7	23.2	9.4	59.4	2.0	100.0
1891-1900	9.3	10.8	24.6	12.7	57.4	2.9	100.0
1901-1910	8.6	10.6	21.8	12.0	53.0	4.3	100.0
1911-1920	7.9	10.9	27.3	8.9	55.0	5.5	100.0
1921-1930	6.6	10.7	25.0	6.9	49.4	8.4	100.0
1931	7.7	9.4	22.4	5.4	44.9	9.2	100.0
1932	7.3	10.0	16.7	5.7	39.7	10.3	100.0
1933	6.5	9.3	19.8	5.9	41.5	9.9	100.0
1934	6.9	8.8	15.8	5.0	36.5	11.3	100.0

Death Rates per 1,000 Population.

Years.	(a) Infective diseases (less Diarrhoea and Influenza).	(b) Tubercular diseases	(c) Respiratory diseases (including Influenza).	(d) Digestive diseases (including Diarrhoea).	Total Deaths from Classes (a), (b), (c) & (d)	(e) Cancer.	Total Deaths from all causes.
1871-1880	5.2	3.6	5.7	2.8	17.3	0.4	28.5
1881-1890	3.6	3.2	5.9	2.4	15.1	0.5	26.1
1891-1900	2.2	2.7	5.9	3.0	13.8	0.7	23.9
1901-1910	1.9	2.2	4.6	2.5	11.1	0.9	20.0
1911-1920	1.3	1.9	4.7	1.6	9.5	1.0	18.1
1921-1930	0.9	1.4	3.3	0.9	6.5	1.1	13.6
1931	1.1	1.3	2.8	0.8	6.0	1.3	14.3
1932	0.9	1.3	2.2	0.7	5.1	1.3	13.2
1933	0.9	1.3	2.8	0.8	5.8	1.4	14.4
1934	0.9	1.1	2.1	0.6	4.7	1.5	13.1

Death-Rates expressed as a percentage of the rates experienced in 1871-1880 (Index Numbers).

1871-1880	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1881-1890	69.0	88.0	104.0	85.7	89.1	125.0	91.0
1891-1900	42.0	75.0	104.0	107.2	79.3	175.0	84.0
1901-1910	36.0	61.0	79.0	89.3	64.3	225.0	70.0
1911-1920	26.0	50.0	83.0	56.7	56.0	250.0	67.0
1921-1930	17.1	40.0	58.8	36.8	38.5	280.0	47.7
1931	21.2	36.1	49.1	28.6	36.7	325.0	50.0
1932	19.2	36.1	38.6	25.0	29.9	325.0	46.3
1933	17.3	36.1	49.1	28.6	33.9	350.0	50.5
1934	17.3	30.5	36.8	21.4	27.2	375.0	46.0

Table showing the Annual Rate of Mortality per 1,000 and the total number of deaths at each of Twelve Age-Periods during the year 1934 in Liverpool.

1934.	Under 1 year.	At Ages											All Ages.
		1—	2—	5—	10—	20—	30—	40—	50—	60—	70—	80—	
Rate of Mortality per 1,000 living at ages indicated ...	*81	25.3	7.5	2.8	2.3	3.7	5.3	8.5	17.3	39.4	91.9	209.6	13.1
Total Number of Deaths at each Age-Period ...	1418	427	372	236	357	545	642	895	1508	2031	2032	856	11319
Approximate Population	17298	16862	49283	85128	158074	148315	120739	105589	86984	51557	22101	4083	866013

* Column I. indicates the rate of mortality under one year per 1,000 births during the year.

Deaths in Public Institutions.

In Liverpool the number of deaths which take place in Public Institutions is large—indeed more than half the total. This tends to show the proportion of people who in times of sickness have recourse to public and charitable institutions in the city, and no doubt also suggests that the institutions have a wide reputation and attract sufferers not only from within the city, but from a distance, as shown by the number of non-resident deaths.

The deaths in institutions during the year numbered 6,987, and included 1,062 persons who were non-residents in the city area. The number of deaths in the various institutions is shown in the following table :—

	Total Deaths.	Deaths of non-residents.
Walton Hospital	1,806	383
Belmont Road Institution	352	25
Smithdown Road Hospital	1,200	28
Mill Road Infirmary	714	5
Alder Hey Hospital	727	82
Kirkdale Homes	195	20
Olive Mount Children's Hospital	61	6
Royal Infirmary	309	109
David Lewis Northern Hospital	236	93
Royal Southern Hospital	216	54
Stanley Hospital	107	30
Liverpool Maternity Hospital	61	14
Royal Liverpool Children's Hospital... ..	193	49
Consumption Hospital	20	16
Liverpool Hahnemann Hospital	17	4
The Women's Hospital	18	11
Carried forward	6,232	929

					Total Deaths.	Deaths of non-residents.
	Brought forward	...	...	...	6,232	929
Eye and Ear Infirmary	...	...	...	...	12	8
Garston Hospital	...	...	...	...	36	—
City Hospital North	...	...	...	...	18	1
do. South	...	...	...	...	30	—
do. East	...	...	...	...	88	—
do. Fazakerley	...	...	...	...	123	11
do. do. Annexe	...	...	...	...	38	2
do. Sparrow Hall	...	...	...	...	7	—
Sanatorium, Fazakerley	...	...	...	...	74	3
do. Broad Green	...	...	...	...	124	1
St. Joseph's Home	...	...	...	...	24	—
Home for Incurables	...	...	...	...	11	3
Tuebrook Villa Asylum	...	...	...	...	8	3
Turner Memorial Home	...	...	...	...	10	4
St. Augustine's Home	...	...	...	...	22	3
H.M. Prison, Walton	...	...	...	...	6	3
Other Institutions, Nursing Homes, etc.					124	91
					<u>6,987</u>	<u>1,062</u>

Of the above deaths, 5,055 took place in the transferred institutions, 1,225 in voluntary hospitals, 502 in city hospitals, and 205 in other institutions.

The following table shows the total number of deaths in public institutions during the years 1928 to 1934 :—

1928.	1929.	1930.	1931.	1932.	1933.	1934.
6,195	7,334	6,447	7,053	6,858	7,461	6,987

Infant Mortality.

The following table shows the deaths and death-rates of infants under one year of age for the year 1934 :—

	Infant Deaths.	Infant Death Rates.
All Infants	1,418	81 per 1,000 live births.
Legitimate Infants ...	1,287	75 „ legitimate live births.
Illegitimate Infants ...	131	168 „ illegitimate live births.

The infant mortality rate for 1934—81 per 1,000 births—was the lowest rate recorded for the City of Liverpool. Reference to the table on page 21 will show that the rate, in spite of fluctuations in individual years, has steadily declined during the past thirty-five years. At the beginning of this period the figure was nearly 200 deaths per 1,000 births.

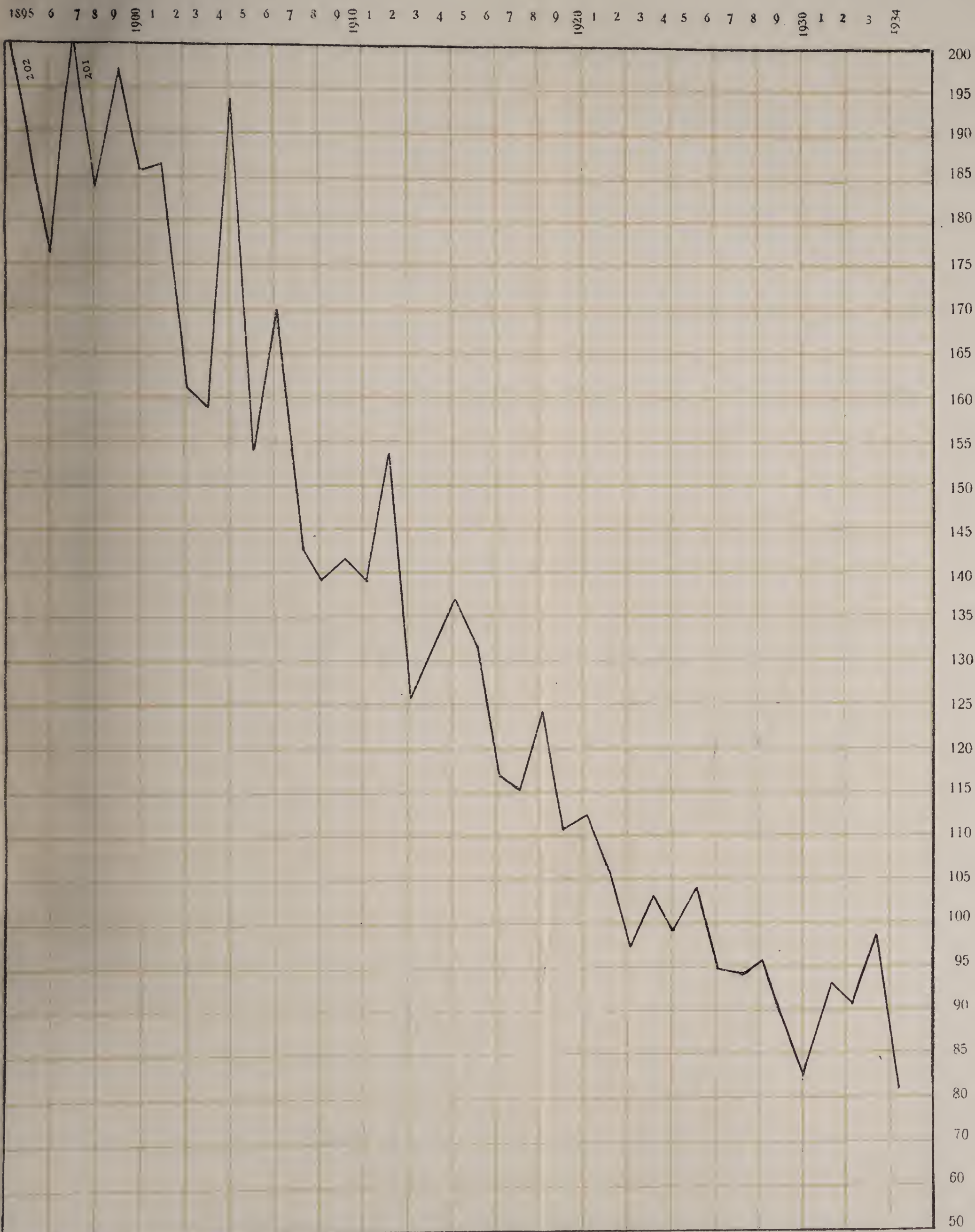
The infantile mortality rate in 1934 was less than one-half the rate in the first years of the present century.

It may be noted that the numbers of deaths from all the usual forms of infantile diseases such as broncho-pneumonia, convulsions, prematurity, etc., have been reduced, but the most markedly affected cause is the one which, in former years, frequently proved the most fatal, namely, epidemic diarrhoea. The number of deaths under one year of age from this cause in the year 1934 was 135 as against an average of 1,000, or 1,100 thirty years ago. No doubt this result is due to a variety of causes, but one which has most materially hastened the decline is the initiation and carrying on by the Infant Welfare Committee of schemes for the promotion of the welfare of motherhood and infancy, including the work of the health visitors, pre-maternity and infant clinics and milk depots, and the measures taken to prevent the breeding of flies.

The summer of the year 1934 was unfavourable from a climatic standpoint, being both hot and dry and is comparable with the summers of 1911 and 1921 when infantile mortalities of 154 and 107 were recorded.

CITY OF LIVERPOOL.

INFANT MORTALITY PER 1,000 BIRTHS, 1895-1934.



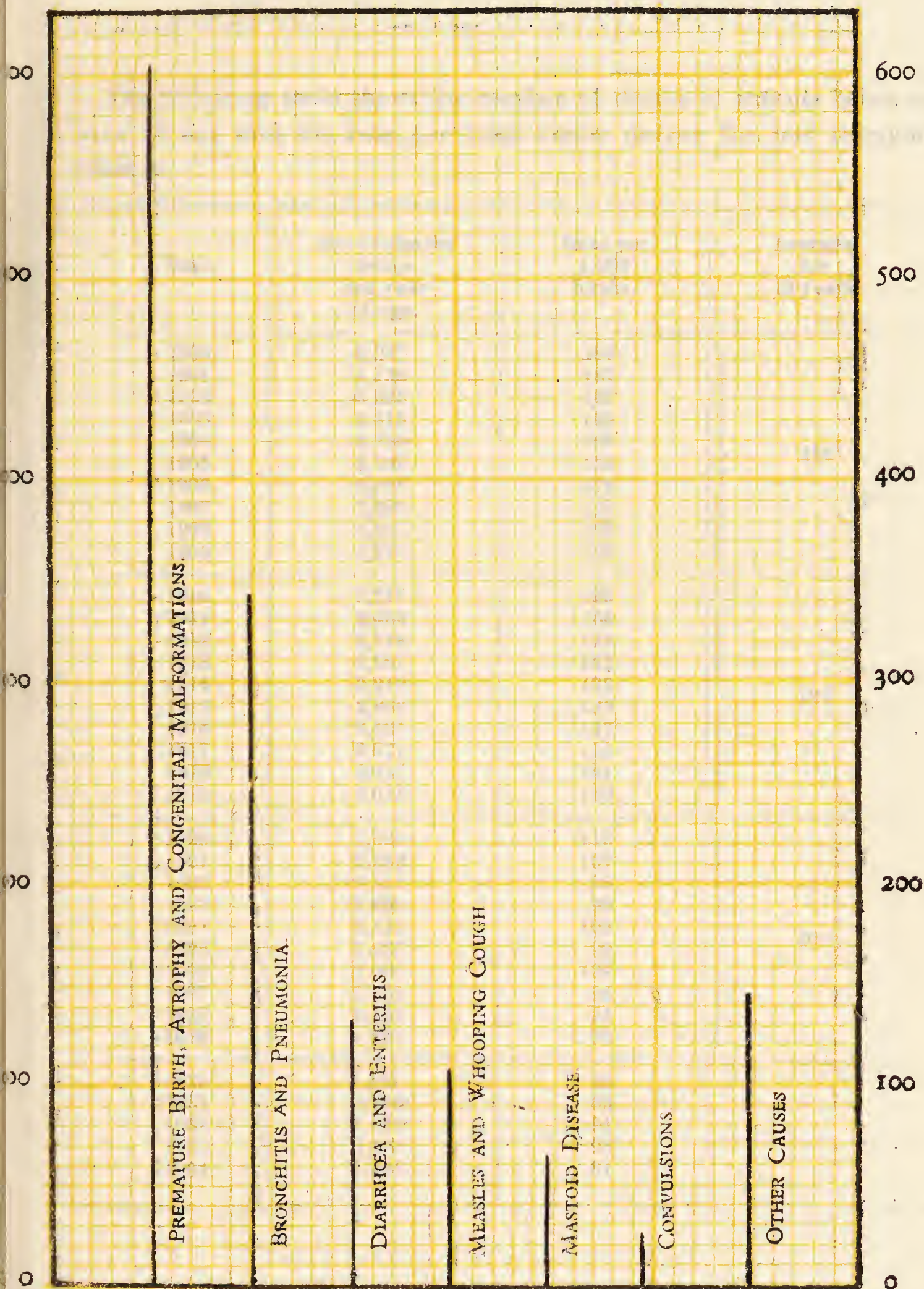
CITY OF LIVERPOOL

1900 1901 1902 1903 1904 1905 1906 1907 1908 1909 1910 1911 1912 1913 1914 1915 1916 1917 1918 1919 1920 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930 1931 1932 1933 1934 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946 1947 1948 1949 1950 1951 1952 1953 1954 1955 1956 1957 1958 1959 1960 1961 1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069 2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082 2083 2084 2085 2086 2087 2088 2089 2090 2091 2092 2093 2094 2095 2096 2097 2098 2099 2100 2101 2102 2103 2104 2105 2106 2107 2108 2109 2110 2111 2112 2113 2114 2115 2116 2117 2118 2119 2120 2121 2122 2123 2124 2125 2126 2127 2128 2129 2130 2131 2132 2133 2134 2135 2136 2137 2138 2139 2140 2141 2142 2143 2144 2145 2146 2147 2148 2149 2150 2151 2152 2153 2154 2155 2156 2157 2158 2159 2160 2161 2162 2163 2164 2165 2166 2167 2168 2169 2170 2171 2172 2173 2174 2175 2176 2177 2178 2179 2180 2181 2182 2183 2184 2185 2186 2187 2188 2189 2190 2191 2192 2193 2194 2195 2196 2197 2198 2199 2200 2201 2202 2203 2204 2205 2206 2207 2208 2209 2210 2211 2212 2213 2214 2215 2216 2217 2218 2219 2220 2221 2222 2223 2224 2225 2226 2227 2228 2229 2230 2231 2232 2233 2234 2235 2236 2237 2238 2239 2240 2241 2242 2243 2244 2245 2246 2247 2248 2249 2250 2251 2252 2253 2254 2255 2256 2257 2258 2259 2260 2261 2262 2263 2264 2265 2266 2267 2268 2269 2270 2271 2272 2273 2274 2275 2276 2277 2278 2279 2280 2281 2282 2283 2284 2285 2286 2287 2288 2289 2290 2291 2292 2293 2294 2295 2296 2297 2298 2299 2300 2301 2302 2303 2304 2305 2306 2307 2308 2309 2310 2311 2312 2313 2314 2315 2316 2317 2318 2319 2320 2321 2322 2323 2324 2325 2326 2327 2328 2329 2330 2331 2332 2333 2334 2335 2336 2337 2338 2339 2340 2341 2342 2343 2344 2345 2346 2347 2348 2349 2350 2351 2352 2353 2354 2355 2356 2357 2358 2359 2360 2361 2362 2363 2364 2365 2366 2367 2368 2369 2370 2371 2372 2373 2374 2375 2376 2377 2378 2379 2380 2381 2382 2383 2384 2385 2386 2387 2388 2389 2390 2391 2392 2393 2394 2395 2396 2397 2398 2399 2400 2401 2402 2403 2404 2405 2406 2407 2408 2409 2410 2411 2412 2413 2414 2415 2416 2417 2418 2419 2420 2421 2422 2423 2424 2425 2426 2427 2428 2429 2430 2431 2432 2433 2434 2435 2436 2437 2438 2439 2440 2441 2442 2443 2444 2445 2446 2447 2448 2449 2450 2451 2452 2453 2454 2455 2456 2457 2458 2459 2460 2461 2462 2463 2464 2465 2466 2467 2468 2469 2470 2471 2472 2473 2474 2475 2476 2477 2478 2479 2480 2481 2482 2483 2484 2485 2486 2487 2488 2489 2490 2491 2492 2493 2494 2495 2496 2497 2498 2499 2500 2501 2502 2503 2504 2505 2506 2507 2508 2509 2510 2511 2512 2513 2514 2515 2516 2517 2518 2519 2520 2521 2522 2523 2524 2525 2526 2527 2528 2529 2530 2531 2532 2533 2534 2535 2536 2537 2538 2539 2540 2541 2542 2543 2544 2545 2546 2547 2548 2549 2550 2551 2552 2553 2554 2555 2556 2557 2558 2559 2560 2561 2562 2563 2564 2565 2566 2567 2568 2569 2570 2571 2572 2573 2574 2575 2576 2577 2578 2579 2580 2581 2582 2583 2584 2585 2586 2587 2588 2589 2590 2591 2592 2593 2594 2595 2596 2597 2598 2599 2600 2601 2602 2603 2604 2605 2606 2607 2608 2609 2610 2611 2612 2613 2614 2615 2616 2617 2618 2619 2620 2621 2622 2623 2624 2625 2626 2627 2628 2629 2630 2631 2632 2633 2634 2635 2636 2637 2638 2639 2640 2641 2642 2643 2644 2645 2646 2647 2648 2649 2650 2651 2652 2653 2654 2655 2656 2657 2658 2659 2660 2661 2662 2663 2664 2665 2666 2667 2668 2669 2670 2671 2672 2673 2674 2675 2676 2677 2678 2679 2680 2681 2682 2683 2684 2685 2686 2687 2688 2689 2690 2691 2692 2693 2694 2695 2696 2697 2698 2699 2700 2701 2702 2703 2704 2705 2706 2707 2708 2709 2710 2711 2712 2713 2714 2715 2716 2717 2718

1. The first part of the document is a list of names and titles, including "The Hon. Mr. Justice" and "The Hon. Mr. Justice".

CITY OF LIVERPOOL.

CHART SHOWING THE PRINCIPAL CAUSES OF DEATHS OF INFANTS
UNDER ONE YEAR OF AGE DURING 1934



CITY OF LIVERPOOL

CHART SHOWING THE PRINCIPAL CAUSES OF DEATH OF INFANTS

UNDER ONE YEAR OF AGE DURING 1954



The following table shows the number of deaths of infants below one year of age and the rate per 1,000 births during the last thirty-five years :—

Year.	No. of deaths below one year of age.	Rate per 1,000 births.	Average for 10 years
1900	4,247	186	164
1901	4,138	187	
1902	3,936	162	
1903	3,815	159	
1904	4,780	196	
1905	3,752	154	
1906	4,137	171	
1907	3,383	143	
1908	3,355	140	
1909	3,377	143	
1910	3,216	139	129
1911	3,466	154	
1912	2,778	125	
1913	2,987	132	
1914	3,219	139	
1915	2,866	133	
1916	2,421	117	
1917	2,071	115	
1918	2,137	124	
1919	2,055	110	
1920	2,826	113	100
1921	2,339	107	
1922	2,052	96	
1923	2,058	99	
1924	2,113	103	
1925	1,935	99	
1926	2,066	104	
1927	1,781	94	
1928	1,789	94	
1929	1,822	96	
1930	1,544	82	
1931	1,740	93	
1932	1,646	91	
1933	1,655	98	
1934	1,418	81	

The relation which the deaths of infants under one year of age has borne to every thousand births in the various districts of the city during the year 1934 is shown in the following table. The detailed causes of death are set out in Appendix D.

DISTRICTS.	Number of births. 1934.	Number of deaths under 1 year of age. 1934.	Deaths under 1 year per 1000 births. 1934.
Exchange	2,180	235	108
Abercromby	768	83	108
Everton	2,485	236	95
Kirkdale	1,429	132	92
Edge Hill	1,799	151	84
Toxteth	2,811	171	61
Walton	1,165	85	73
West Derby	1,811	124	68
Wavertree	1,557	92	58
Fazakerley	1,501	104	69
Woolton	87	5	57
City	17,593	1,418	81

The table on page 24 provides an analysis of the principal causes of infantile mortality for successive periods of five years from 1896-1900 onwards. It is divided into three sections, the first giving the *actual number* of births and of deaths under 1 year of age, both the total deaths and the numbers of deaths from seven main categories of disease, which include almost all the deaths; the second section gives the birth rate and the deaths expressed as rates per 1,000 births, and the third section gives these rates as a percentage of the rates recorded in 1896-1900, such percentages being termed index figures.

Examination of this table shows that whilst the annual number of births has shown some decline, fluctuating from 22,340 to 17,593 per annum, the number of infantile deaths has fallen from 4,232 to 1,418, and the infantile death rate has accordingly fallen from 189 to 81 per 1,000 births; in other words, this rate has fallen to 42·8 per cent. of the figure recorded in 1896-1900. This great saving of life during the past 35 years coincides with the many improvements in housing and sanitation in Liverpool; and more particularly this fall has occurred simultaneously with the increasing attention which has been directed to infant welfare by the Health Department and other bodies, by the improvement in the provision of assistance for women in child birth and the advice and help extended to mothers and infants by health visitors, ante-natal, post-natal and infant clinics, hospitals and other agencies.

Investigation of the actual causes of death bears this out. The greatest reduction has occurred under the heading Tubercular Diseases--reduction from 100 to 14·5, Digestive Diseases to 15·2, and Nervous Diseases to 26·2. The deaths included under the heading Nervous Diseases are mainly those certified as from convulsions, which are frequently a symptom of the onset of acute infective diarrhœa, by far the commonest cause of death in the group of digestive diseases. Convulsions may also occur at the onset of other infectious diseases, and further may result from injuries during birth. The heading Tubercular Diseases also formerly included many deaths ascribed to *Tabes Mesenterica*, a term of uncertain meaning, but probably including numerous cases of chronic diarrhœa. The reduction in these three groups of diseases is then mainly a reduction in deaths from diarrhœa.

Equally marked and even more satisfactory is the reduction in the number of deaths from "external causes," which includes overlaying (see page 30) and burns and scalds. The great reduction in the deaths placed in this category testifies to the greater care taken of children and infants by parents; but it is somewhat sinister that these deaths have increased steadily from 9 to 18 in the past four years. Much less satisfactory are the figures relating to general diseases and respiratory diseases. The figures in column 8 relating to malformations, premature birth, marasmus, etc., although they show a considerable saving of life—539 lives saved per annum—and though doubtless containing many deaths of children who were so malformed as to be incapable of prolonged life, yet show much room for improvement.

Analysis of causes of Infant Mortality in successive quinquennia 1896-1930, and the years 1931, 1932, 1933 and 1934. (A.)—Recorded Deaths.

Years.	1 Births and Birth Rates.	2 Total Deaths Under 1 Year of Age.	3 General Diseases (excluding Tubercu- losis).	4 Tubercular Diseases.	5 Nervous Diseases	6 Respira- tory Diseases	7 Digestive Diseases ; including Diarrhoea.	8 Malforma- tions, Premature Birth, Maras- mus, &c.	9 Externa Causes.
1896/1900	111,700	21,160	1,508	698	2,476	3,575	6,376	5,698	819
1901/1905	118,801	20,353	1,546	644	2,516	3,484	5,187	5,732	565
1906/1910	118,313	17,739	1,613	465	2,052	3,146	3,902	5,520	539
1911/1915	111,872	15,458	1,309	345	1,432	2,916	3,635	4,953	426
1916/1920	99,451	11,510	1,116	202	1,083	2,821	1,872	4,107	179
1921/1925	104,217	10,497	1,066	200	573	2,776	1,786	3,764	120
1926/1930	95,701	9,002	978	109	401	2,553	1,670	2,981	81
1931	18,626	1,740	267	20	58	471	258	640	90
1932	18,149	1,646	206	22	63	409	265	642	122
1933	16,929	1,655	167	16	71	401	304	652	163
1934	17,593	1,418	156	16	102	347	152	601	185

(B.)—Death Rates per 1,000 Births.

1896/1900	33.4	189	12.7	6.2	22.1	32.0	57.1	51.0	7.3
1901/1905	33.4	172	13.0	5.5	21.2	29.3	43.7	48.1	4.7
1906/1910	32.2	149	13.6	3.9	17.4	26.6	33.0	46.7	4.6
1911/1915	29.3	137	11.6	3.1	12.8	26.1	32.5	43.1	3.8
1916/1920	24.9	116	11.1	2.0	10.9	28.4	18.8	42.0	1.8
1921/1925	25.1	100	10.2	1.9	5.5	26.6	17.1	36.1	1.2
1926/1930	22.1	94	10.2	1.1	4.2	26.7	17.4	31.1	0.8
1931	21.7	93	14.3	1.1	3.1	25.3	13.8	34.4	0.5
1932	21.0	91	11.3	1.2	3.5	22.5	14.6	35.4	0.5
1933	19.5	98	9.9	0.9	4.2	23.7	17.9	38.5	0.4
1934	20.3	81	8.9	0.9	5.8	19.7	8.7	34.2	1.0

(C.)—Death Rates expressed as a percentage of the rates recorded in 1896-1900.

Years.	1 Births and Birth Rates.	2 Total Deaths Under 1 Year of Age.	3 General Diseases (excluding Tubercu- losis).	4 Tubercular Diseases.	5 Nervous Diseases.	6 Respira- tory Diseases.	7 Digestive Diseases; including Diarrhoea.	8 Malforma- tions, Premature Birth, Maras- mus, &c.	9 External Causes.
1896/1900	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1897/1905	100·0	91·0	102·3	89·3	95·0	91·5	76·5	94·0	65·7
1898/1910	93	78·6	107·1	62·9	78·6	83·1	57·8	91·0	63·0
1899/1915	87	72·5	91·9	50·0	57·9	81·5	56·9	84·0	52·1
1900/1920	76	61·4	87·4	32·2	49·3	88·7	32·7	82·0	25·5
1901/1925	75·1	54·9	80·3	30·6	24·9	84·7	29·9	70·8	16·4
1902/1930	66·2	49·7	80·3	17·7	18·9	83·5	30·4	60·9	11·0
1903/1	64·9	49·2	112·6	17·7	14·0	79·0	24·2	67·5	6·8
1904/2	62·9	48·2	89·0	19·3	15·9	70·3	25·6	69·4	9·6
1905/3	58·4	51·8	77·9	14·5	19·0	74·1	31·4	75·5	12·3
1906/4	60·8	42·8	70·1	14·5	26·2	61·6	15·2	67·1	13·7

Deaths from Diabetes.

The following table shows the incidence of fatal cases of diabetes in Liverpool since 1890:—

	Actual Numbers.			Average.			Rate per 100,000 population.	Ratio of males to females.
	Males.	Females.	Total.	Males.	Females.	Total.		
1890-1894	55	45	100	11·0	9·0	20·0	3·8	1·22
1895-1899	99	76	175	19·8	15·2	35·0	5·3	1·30
1900-1904	132	100	232	26·4	20·0	46·4	6·5	1·32
1905-1909	153	124	277	30·6	24·8	55·4	8·4	1·23
1910-1914	162	153	315	32·4	30·6	63·0	8·4	1·06
1915-1919	153	137	290	30·6	27·4	58·0	7·4	1·12
1920-1924	153	203	356	30·6	40·6	71·2	8·6	0·75
1925-1929	168	216	384	33·6	43·2	76·8	8·9	0·78
1930	34	60	94	—	—	—	10·7	0·57
1931	25	64	89	—	—	—	10·4	0·39
1932	19	63	82	—	—	—	9·5	0·30
1933	34	66	100	—	—	—	11·5	0·51
1934	26	58	84	—	—	—	9·7	0·45

The death-rate from diabetes rose steadily till 1910-14. It is probable that this rise was largely due to improved diagnosis. During the war the number of deaths showed a distinct fall, especially in 1917 and 1918; this was a real fall and not merely due to the absence of males on military service as, on the average of five years, females were equally affected with males. Since the war the figures have again risen, and are now above the average for the decade 1910-19. The disparity in the incidence, between the two sexes, previously in favour of the females, has since 1904 tended to change. In 1890-1894, 55 per cent. of the deaths were of males; but since 1920-25 the position has been reversed, and in 1934 only 31 per cent. were of males. It is not improbable that the greater attention that has recently been paid to this disease has led to its more frequent recognition as a factor in mortality.

The age at death has also greatly altered and, especially among males, there is a preponderance of deaths at ages over 60 and a reduction in deaths under this age. In the year 1910 66 per cent. of the deaths were under 65 years of age, in 1929 55 per cent., in 1930 63 per cent., in 1931 56 per cent., in 1932 57 per cent., in 1933 46 per cent., and in 1934 43 per cent.

Deaths from Cancer.

During 1934 there were 1,276 deaths attributed to cancer, equivalent to a rate of 1.47 per thousand, whereas in 1871-1880 the rate of mortality was 0.4 per thousand. The tables on pages 15 and 16 give the figures for the intervening years. Comparing the anatomical distribution in 1929-1933 and 1934 it will be observed that there is a tendency for deaths from cancer of the stomach, liver, etc., from cancer of the intestines, etc., and especially from cancer of other organs, mainly internal, to increase. Such fluctuations, however, are apt to occur under the influence of chance.

Part of the increase in mortality from cancer is due to the increased longevity of the population, more of whom survive into those periods of life when cancer is most frequent. Whilst during the last 50 years there has been an increase in recorded cancer mortality at each age period except the earliest, the increase is most marked at the three later age periods, that is at ages over 60 years. The increase in recorded cancer mortality is mainly at old age.

The increased mortality from cancer was, therefore (a) mainly among males; (b) most marked in the later years of life. There is evidence to show that the increase is especially in the case of cancer of the stomach and other internal organs where the disease is most difficult to diagnose. A great part in the increase is probably not real but statistical, and due to improved diagnosis. The term, old age, for example, is less frequently used as a cause of death than in former years; doubtless many deaths from cancer were formerly concealed under this title.

Deaths from Cancer, showing the parts of the body affected, during the years 1929 to 1934.

Parts of the Body affected.	1929.			1930.			1931.			1932.			1933.			Average 1929-33.			1934.		
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.
Buccal Cavity...	85	10	95	70	10	80	72	14	86	86	15	101	80	12	92	79	12	91	90	10	100
Stomach, liver, etc.	178	155	333	167	141	308	168	160	328	185	132	317	221	181	402	183	154	337	243	169	412
Intestines, etc.	105	107	212	100	106	206	118	102	220	115	115	230	114	122	236	111	110	221	119	143	262
Breast	—	82	82	1	111	112	—	107	107	—	106	106	2	116	118	1	104	105	—	101	101
Female Genital Organs	—	107	107	—	81	81	—	88	88	—	91	91	—	87	87	—	91	91	—	108	108
Skin	11	4	15	7	7	14	3	5	8	9	8	17	13	8	21	9	6	15	29	7	36
*Lungs.....	—	—	—	—	—	—	—	—	—	—	—	—	67	17	84	—	—	—	67	19	86
Other Organs....	186	74	260	158	121	279	173	118	291	199	106	305	126	66	192	181	101	282	111	60	171
Totals.....	565	539	1104	503	577	1080	534	594	1128	594	573	1167	623	609	1232	564	578	1142	659	617	1276

* The deaths from cancer of lungs prior to 1933 are included in the deaths from cancer of other unspecified organs.

Deaths due to Rheumatic Fever, Pericarditis and Acute Endocarditis (during 1934 and 9 previous years).

	1925.		1926.		1927.		1928.		1929.		1930.		1931.		1932.		1933.		1934.		Av. of 10 yrs. 1925-1934.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Rheumatic Fever	22	28	19	19	28	45	30	55	30	49	42	51	26	36	21	27	33	36	33	38	29	38
Pericarditis	5	4	4	5	7	3	6	3	10	4	6	9	9	4	8	2	6	5	12	6	7	4
Acute Endocarditis	38	44	23	42	29	43	24	31	34	53	18	33	15	27	15	21	15	13	9	22	32	
TOTALS	65	76	46	66	64	91	60	89	74	106	66	93	50	67	44	50	54	54	54	58	74	
	141		112		155		149		180		159		117		94		108		107		132	

Monthly Distribution of Rheumatic Fever Deaths.		1934.	
January ...		M.	F.
February ...		2	2
March ...		5	5
April ...		1	4
May ...		4	1
June ...		2	4
July ...		2	2
August ...		1	3
September ...		4	4
October ...		1	5
November ...		1	—
December ...		4	3
Inward Transfers		5	4
		1	1
		33	38

Deaths from Excessive Drinking, &c

It is still gratifying to note that the deaths due to or accelerated by excessive drinking continue to remain low, the number being four.

The number of deaths of infants under one year of age from suffocation was five.

Improved habits and conditions, wider educational influences and other agencies, including those associated with the welfare of motherhood and infancy have all played their part in promoting a more temperate use of alcoholic drinks with results which are eminently satisfactory. Housing operations have unquestionably contributed towards improving the general conditions of life and social habits of the people formerly living in insanitary surroundings in slum areas. The improved condition of the children is especially noticeable; the reports in connection with medical inspection of school children in the poorer localities show welcome improvement, details in reference to this subject being given in the annual reports to the Education Committee.

The following table shows the number of deaths from excessive drinking from the year 1900 to date, together with the number of deaths of infants under one year of age from suffocation for the same period :—

	Deaths from excessive drinking.			Deaths from suffocation under 1 year of age.
	Males.	Females.	Total.	
1900—1909 (yearly average)	101	63	164	94
1910—1919 (yearly average)	53	28	81	51
1920—1929 (yearly average)	7	3	10	12
1930	4	—	4	12
1931	2	5	7	8
1932	3	4	7	5
1933	5	1	6	6
1934	1	3	4	5

Deaths from Gas Poisoning.

Deaths from this cause fall under two headings, namely, from accidental poisoning and suicide. The following table gives the number for the last seven years, viz.:—

Year.	Accidental.	Suicide.
1928	8	29
1929	9	49
1930	4	46
1931	5	49
1932	5	47
1933	7	71
1934	9	52

METEOROLOGY.

The Director to the Liverpool Observatory and Tidal Institute, Bidston, has kindly furnished the following tables relating to Meteorological observations made by him at the Observatory, Bidston :—

Latitude 53° 24' N. Longitude 3° 4' W.

Height above the Mean Level of the Sea 202 feet.

1934	Barometer. Mean.	Temperature. Mean.	RAINFALL.		Mean Humidity of the air (Complete Satura- tion 100 %).
			Amount.	No. of days on which 0·01 in. fell.	
	Inches.	Degrees F.	Inches.		
January	30·020	41·5	1·484	15	84
February	30·454	40·7	0·134	2	84
March	29·661	41·1	1·260	16	81
April	29·692	45·6	1·697	14	77
May	30·068	50·8	1·645	12	76
June	30·063	57·7	1·469	10	77
July	30·016	64·0	0·697	10	70
August	29·854	58·7	3·795	14	78
September	29·945	55·0	2·256	15	78
October	29·891	51·0	4·748	26	82
November	30·055	43·9	1·779	9	89
December	29·495	46·0	4·126	21	90

**Difference from the Average Quantities observed during
the last 68 years.**

1934.	BAROMETER.		TEMPERATURE.		RAINFALL.	
	Above Average.	Below Average.	Above Average.	Below Average.	Above Average.	Below Average.
	Inches.	Inches.	Degrees F.	Degrees F.	Inches.	Inches.
January	0·085	...	1·7	...	...	0·720
February	0·517	...	0·4	...	...	1·571
March. ....	...	0·230	...	1·0	...	0·528
April.....	...	0·205	...	1·0	0·035	...
May	0·106	...	...	1·3	...	0·362
June	0·070	...	0·3	...	...	0·562
July.....	0·070	...	3·6	...	...	1·009
August .....	...	0·063	...	1·1	0·634	...
September .....	...	0·024	...	1·2	...	0·489
October	0·012	...	1·4	...	1·378	...
November.....	0·165	...	0·1	...	...	0·801
December .....	...	0·360	5·3	...	1·440	...
Year's Totals ...	0·012	...	0·6	...	...	3·555

Monthly Analysis of Wind Observations during 1934.
Compiled from observations taken at 0700, 1300, 1800 and 2100.

1934.	Force (0-12).				Direction.							
	8 or over.	4-7	1-3	Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
January	0	79	37	8	5	1	0	16	24	18	33	19
February	0	46	54	12	10	9	1	4	3	3	34	36
March	0	49	70	5	10	7	8	23	8	10	25	28
April.....	0	57	56	7	14	8	22	15	8	13	19	14
May	0	59	56	9	4	2	13	8	5	20	37	26
June	1	31	76	12	9	8	20	6	5	7	14	39
July	0	47	70	7	8	1	12	12	6	11	33	34
August	1	49	68	6	2	2	9	19	13	15	27	31
September	0	51	69	0	2	1	11	27	24	24	22	9
October	1	76	46	1	11	3	1	6	11	24	49	18
November.....	0	29	82	9	8	24	11	6	14	13	13	22
December	0	64	60	0	2	0	1	21	58	15	10	17
Year's Total	3	637	744	76	85	66	109	163	179	173	316	293

1934 Week Ended.	Baro- meter Mean.	Temperature.			Rainfall.		Wind Mean direc- tion.	Median Hum- idity %.	Sun- shine hours.	Ultra- Violet Radia- tion.
		Maxi- mum.	Mini- mum.	Mean.	Amt. inches	Dur- ation hours.				
January 6	30.0	52.2	31.0	42.1	0.283	9.4	W.	86.5	16.7	—
„ 13	29.75	51.7	35.5	43.1	0.409	7.0	S.E.	81.6	11.2	—
„ 20	29.6	55.3	34.9	42.3	0.65	14.7	N.W.	82.5	17.9	—
„ 27	30.34	46.1	32.3	38.5	0.043	3.9	S.E.	86.3	18.3	—
February 3	30.63	44.0	27.2	37.7	0.122	4.4	N.W.	84.0	16.4	—
„ 10	30.36	47.7	39.0	43.0	0.027	0.8	W.	81.0	8.0	—
„ 17	30.77	47.2	32.0	39.3	—	—	N.W.	89.7	15.4	—
„ 24	30.4	48.9	29.2	41.9	0.098	3.0	N.W.	84.3	17.3	1.4
March 3	29.92	50.0	28.7	38.7	0.047	1.2	N.	77.6	41.6	1.7
„ 10	29.7	50.1	30.8	41.3	0.307	10.4	W.	79.6	22.6	1.3
„ 17	28.97	47.0	30.0	39.3	0.657	20.2	E.	85.0	9.1	—
„ 24	29.74	50.6	35.0	41.6	0.24	12.8	N.W.	84.9	19.7	—
„ 31	30.11	51.3	31.0	42.1	0.011	0.8	S.E.	76.5	31.4	1.7
April 7	29.91	50.2	32.6	41.3	0.063	3.6	E.	71.5	32.6	1.3
„ 14	29.66	58.7	34.2	45.9	0.728	18.4	E.	77.7	23.1	—
„ 21	29.74	67.0	39.0	49.0	0.271	5.2	S.E.	76.9	39.7	—
„ 28	29.55	53.2	39.3	46.3	0.641	16.8	W.	80.7	24.5	1.7
May 5	29.94	63.0	40.0	49.8	0.169	1.8	N.W.	74.6	45.6	4.0
„ 12	30.21	69.9	43.0	53.6	0.452	12.2	N.W.	79.5	28.6	2.4
„ 19	29.80	55.2	41.5	46.4	1.05	30.9	W.	74.2	33.4	2.3
„ 26	30.22	65.3	43.2	52.7	0.075	5.4	N.W.	77.0	37.4	3.7
June 2	30.21	71.1	46.4	55.7	—	—	E.	73.9	54.6	4.7
„ 9	30.14	65.0	47.0	55.8	0.303	1.0	E.	72.2	54.9	4.7
„ 16	30.11	72.8	47.8	62.4	0.047	0.7	W.	76.8	51.9	4.1
„ 23	29.88	67.0	48.0	56.9	0.952	20.9	W.	79.2	40.4	3.1
„ 30	30.06	64.0	49.3	58.1	0.165	4.6	N.W.	82.7	40.6	2.0

1934 Week Ended.		Baro- meter Mean.	Temperature.			Rainfall.		Wind Mean direc- tion.	Median Hum- idity %.	Sun- shine hours.	Ultra- Violet Radia- tion.
			Maxi- mum.	Mini- mum.	Mean.	Amt. inches	Dur- ation hours.				
July	7	30.24	83.9	53.0	65.2	—	—	N.W.	72.5	86.1	6.0
„	14	30.01	87.0	55.1	68.5	0.291	4.8	S.E.	51.2	61.1	5.4
„	21	29.96	77.4	55.3	64.8	0.161	4.4	W.	71.0	43.5	4.5
„	28	29.97	68.4	54.6	60.9	0.137	5.0	N.W.	74.6	39.6	3.7
August	4	29.66	72.3	50.1	61.2	0.441	13.7	W.	75.7	36.8	2.8
„	11	29.83	70.4	54.0	61.3	1.716	21.0	W.	79.4	22.7	2.2
„	18	30.0	69.2	50.8	59.7	0.143	3.6	N.W.	81.4	35.8	4.2
„	25	29.87	66.0	48.2	57.6	0.133	2.2	N.W.	75.6	48.8	3.7
September	1	29.78	72.7	44.0	55.9	1.626	8.3	S.E.	76.1	42.5	2.2
„	8	29.89	71.0	49.0	59.4	0.075	2.4	S.E.	77.0	43.7	2.5
„	15	30.11	75.3	47.0	60.8	0.267	1.4	E.	78.8	42.7	3.0
„	22	29.80	66.0	46.2	55.0	0.87	13.3	S.E.	78.5	21.6	1.4
„	29	29.84	72.1	47.0	55.8	0.62	13.3	W.	76.0	28.7	1.8
October	6	29.62	65.0	44.4	52.8	1.346	17.7	S.	73.2	7.8	—
„	13	30.29	64.8	45.1	54.2	0.381	8.8	W.	85.0	17.7	—
„	20	29.99	58.0	41.8	50.5	0.421	9.4	N.W.	80.2	12.3	—
„	27	29.57	60.1	43.0	51.0	0.78	13.1	S.E.	78.9	17.1	—
November	3	29.86	49.4	32.4	40.5	2.93	44.3	Var.	83.9	14.6	—
„	10	29.62	48.0	36.8	42.1	0.8	29.8	N.E.	85.2	14.6	—
„	17	29.78	48.0	32.6	42.4	0.126	10.5	N.E.	93.5	10.8	—
„	24	30.40	52.0	40.4	46.9	—	—	N.W.	88.7	14.7	1.1
December	1	30.44	52.8	41.0	47.41	0.64	14.1	N.W.	87.4	—	—
„	8	29.54	54.5	41.2	49.5	1.705	28.4	S.	90.7	3.8	—
„	15	29.11	54.2	39.2	45.4	0.319	10.2	S.	89.7	9.0	—
„	22	29.44	51.0	39.6	45.3	0.401	12.1	N.W.	89.3	7.2	—
„	29	29.68	48.8	38.6	44.0	0.886	24.5	S.E.	91.5	1.1	—

FAZAKERLEY

B.R. 25.3
D.R. 9.0
I.M. 69
Pop. 11

WEST DERBY

B.R. 17.2
D.R. 11.2
I.M. 68
Pop. 36

WOOLTON

B.R. 11.5
D.R. 9.0
I.M. 57
Pop. 3

WAVERTREE

B.R. 15.0
D.R. 11.7
I.M. 58
Pop. 12

WALTON

B.R. 12.8
D.R. 11.1
I.M. 73
Pop. 47

EDGE HILL

B.R. 22.5
D.R. 14.2
I.M. 84
Pop. 119

EVERTON

B.R. 22.8
D.R. 14.2
I.M. 95
Pop. 157

TOXTETH

B.R. 21.3
D.R. 13.5
I.M. 61
Pop. 60

CITY OF LIVERPOOL.

1934

POPULATION 866,013

Birth Rate for whole City .. 20.3
Death Rate for whole City .. 13.1
Infantile Death Rate per 1,000 Births 81
Population per acre, whole City 32

KIRKDALE

B.R. 22.4
D.R. 12.2
I.M. 92
Pop. 87

EXCHANGE

B.R. 29.9
D.R. 17.6
I.M. 108
Pop. 71

ABERCROMBY

B.R. 18.5
D.R. 16.5
I.M. 108
Pop. 61

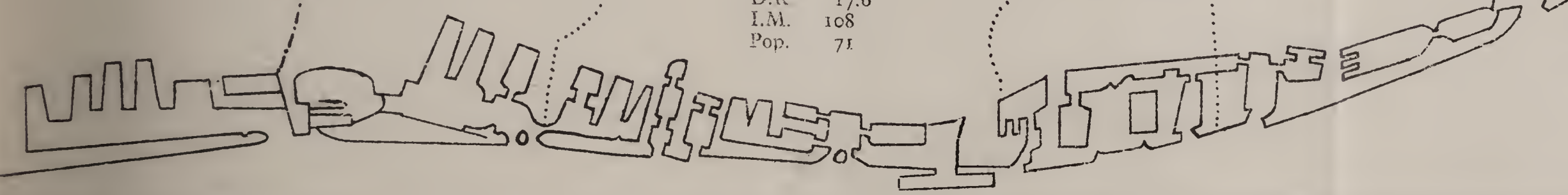


Diagram showing Birth Rate (B.R.) per 1,000 of estimated population
Death Rate (D.R.) number of Deaths of Infants under One Year out of every 1,000 born (I.M.)
estimated population per acre, excluding Docks and Quays and including Parks and Open Spaces (Pop.)

In each of the districts of the City during 1934.

FAZAKERLEY

88	100
84	100
80	100
76	100
72	100

WALTON

88	100
84	100
80	100
76	100
72	100

KIRKDALE

88	100
84	100
80	100
76	100
72	100



INFECTIOUS DISEASES.

NOTIFICATION OF INFECTIOUS DISEASE.

The following is a list of the diseases notifiable in Liverpool during 1934 :—

Anthrax	Membranous Croup
Anterior Poliomyelitis	Ophthalmia Neonatorum
Cerebro-spinal Fever	Paratyphoid Fever
Cholera	Plague
*Chickenpox	Pneumonia, Acute Influenzal
Continued Fever	Pneumonia, Acute Primary
Diphtheria	Polioencephalitis, Acute
Dysentery	Puerperal Fever
Enteric (Typhoid) Fever	Puerperal Pyrexia
Erysipelas	Relapsing Fever
Encephalitis Lethargica, Acute	Scarlet Fever or Scarlatina
*German Measles	Smallpox
*Measles	Tuberculosis (all forms)
Malaria	Typhus Fever

* Measles and German Measles ceased to be compulsorily notifiable on 31st October, 1920. A system of voluntary notification has been adopted in regard to these diseases and Chickenpox.

General Statistical Tables.

In Table I are given the numbers of notifications of infectious disease received from medical practitioners during each month of 1934.

TABLE I.

MONTHLY NUMBERS OF NOTIFICATIONS OF INFECTIOUS DISEASE DURING 1934.

January	...	...	...	...	...	2,685
February	...	...	...	...	...	3,160
March	...	...	...	...	...	3,719
April	...	...	...	...	...	2,803
May	...	...	...	...	...	2,256
June	...	...	...	...	...	1,857
July	...	...	...	...	...	1,083
August	...	...	...	...	...	713
September	...	...	...	...	...	756
October	...	...	...	...	...	954
November	...	...	...	...	...	931
December	...	...	...	...	...	997
						21,914

In Table II are given the numbers of cases of infectious disease coming to notice during 1934, both by means of notifications from medical practitioners and in other ways, together with the number of patients who were removed to hospital.

TABLE II.

NUMBERS OF CASES OF INFECTIOUS DISEASE DURING 1934 AND THE
DURING 1934, AND NUMBERS ADMITTED TO HOSPITAL.

	January	February	March	April	May	June	July	August	September	October	November	December	TOTALS	Cases admitted to hospital	Percentage admitted to hospital
Smallpox ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Plague ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enteric Fever ...	1	—	2	3	—	1	3	3	—	2	6	2	23	22	95·6
Scarlet Fever ...	559	409	489	278	321	337	167	164	225	219	191	215	3574	2432	68·0
Measles and German Measles	851	1946	3184	1845	1382	1140	338	96	124	55	40	54	11055	820	7·4
Diphtheria ...	243	277	245	180	207	281	203	166	246	255	227	383	2913	2803	96·2
Puerperal Fever ...	7	4	7	3	4	1	4	—	2	1	5	5	43	37	86·0
Puerperal Pyrexia...	30	24	23	35	15	33	22	13	17	23	11	32	278	246	88·5
Erysipelas ...	103	92	104	62	58	75	39	41	52	56	53	84	819	453	55·3
Cerebro-spinal Fever	6	7	7	7	4	3	7	5	5	10	4	4	69	68	98·5
Poliomyelitis and Polioencephalitis	1	1	1	—	—	1	1	—	—	2	2	—	9	9	100·0
Ophthalmia Neonatorum	62	52	61	63	46	60	49	56	76	59	47	64	695	227	32·7
Pneumonia & Influenzal Pneumonia	244	242	336	261	169	219	106	75	154	132	204	286	2428	1193	49·1
Malaria ...	1	—	2	2	—	3	1	2	2	1	1	3	18	6	33·3
Dysentery ...	—	—	3	—	—	—	—	—	—	4	—	—	7	7	100·0
Encephalitis Lethargica	—	2	1	7	4	3	3	3	2	1	—	4	30	19	63·3
Whooping Cough ...	274	402	531	365	272	241	46	44	58	58	88	58	2437	342	14·0
Anthrax ...	1	—	—	—	—	—	—	—	—	—	—	1	2	2	100·0
Chickenpox...	400	332	368	196	206	358	148	56	121	138	150	242	2715	110	4·0
TOTALS ...	2783	3790	5364	3307	2688	2756	1137	724	1084	1015	1029	1437	27115	8796	32·4

The numbers of patients admitted to hospital include the cases which occurred while in hospital.

In Table III are given the numbers of cases of infectious diseases coming to notice during 1934, and also corresponding cases during the previous five years.

TABLE III.
NUMBERS OF CASES OF INFECTIOUS DISEASES DURING 1934 AND THE
FIVE PREVIOUS YEARS.

DISEASE.	1929	1930	1931	1932	1933	1934
Smallpox	2	1	—	1	—	—
Plague	—	—	—	—	—	—
Typhus Fever	—	—	—	—	—	—
Enteric Fever	23	60	37	54	70	23
Scarlet Fever	3,989	3,069	1,407	1,925	5,286	3,574
Measles and German Measles...	10,546	5,966	7,572	8,816	10,004	11,055
Diphtheria	2,336	4,023	3,256	3,312	2,917	2,913
Puerperal Fever	41	43	54	54	44	43
Erysipelas.....	711	720	510	592	920	819
Cerebro-spinal Fever	23	21	57	76	64	69
Poliomyelitis and Polioen- cephalitis	21	14	7	25	10	9
Ophthalmia Neonatorum	584	610	718	668	594	695
Anthrax	4	3	2	2	—	2
Encephalitis Lethargica.....	28	27	35	21	30	30
Whooping Cough.....	1,876	1,147	2,267	1,596	987	2,437
Malaria	63	125	98	24	26	18
Dysentery.....	8	27	12	7	3	7
Chickenpox	2,800	2,567	1,568	2,993	2,888	2,715

In Table IV are given the numbers of deaths from infectious disease during 1934, and also corresponding deaths during the previous five years.

TABLE IV.

NUMBERS OF DEATHS FROM INFECTIOUS DISEASE DURING 1934 AND THE
FIVE PREVIOUS YEARS.

DISEASE.	1929	1930	1931	1932	1933	1934
Smallpox	—	—	—	—	—	—
Plague	—	—	—	—	—	—
Typhus Fever	—	—	—	—	—	—
Enteric Fever	8	1	6	6	2	—
Scarlet Fever	41	35	11	11	27	19
Measles and German Measles...	427	170	369	312	299	229
Diphtheria	139	236	197	184	177	177
Influenza	408	75	345	128	342	116
Puerperal Fever	26	16	20	16	29	25
Erysipelas.....	34	24	27	42	73	54
Cerebro-spinal Fever	21	17	47	47	45	37
Poliomyelitis and Polioen- cephalitis	10	6	4	11	3	3
Anthrax	2	1	—	—	—	—
Encephalitis Lethargica.....	26	18	26	15	21	24
Whooping Cough.....	198	75	189	148	93	172
Malaria	5	12	3	1	2	2
Dysentery.....	3	4	5	5	2	2
Chickenpox	8	3	1	—	1	—

In Table V are given the case-rates per 1,000 of the population and the death-rates per 100,000 of the population in respect of the infectious diseases named at the head of the table.

TABLE V.

CASE-RATES AND DEATH-RATES OF INFECTIOUS DISEASE DURING 1934.

	Smallpox	Enteric Fever	Scarlet Fever.	Measles.	Diphtheria.	Puerperal Fever.	Erysipelas.	Cerebro-spinal Fever.	Poliomyelitis and Polioencephalitis.	Encephalitis Lethargica.	Malaria	Whooping Cough.
.....	—	23	3,574	11,055	2,913	43	819	69	9	30	18	2,437
ate per 1,000 ...	—	0·03	4·13	12·76	3·36	2·44*	0·94	0·08	0·01	0·03	0·02	2·81
s	—	—	19	229	177	25	54	37	3	24	2	172
-rate per 100,000	—	—	2·2	26·4	20·4	136·8†	6·2	4·3	0·3	2·8	0·2	19·9

* Case-rate per 1,000 births.

† Death-rate per 100,000 live and still-births.

INFECTIOUS SICKNESS.

Plague.

No case of plague occurred in the city during the year.

Smallpox.

No case of smallpox occurred in the city during the year.

The following figures for England and Wales show a gradual and remarkable spread of a very mild type of smallpox during the years 1925 to 1930, followed by a rapid decline. Only a few deaths occurred among the thousands of cases reported.

Year.		Cases.		Deaths.
1925	.. ..	5,365	...	9
1926	... ..	10,205	...	19
1927	... ..	14,769	...	49
1928	... ..	12,433	...	53
1929	... ..	10,975	...	39
1930	... ..	11,855	...	28
1931	... ..	5,665	...	9
1932	.. ...	2,070	...	3
1933	... ..	631	...	2
1934	... ..	179	...	6

(Extracted from the Registrar General's Quarterly Returns.)

On account of its world-wide trade, Liverpool must always be one of the channels through which the severe types of smallpox may be imported. Furthermore, the constantly moving population—inwards and outwards—renders the city particularly liable to infection. For that reason it has always been the policy of the department to continue to urge that the only safeguard against smallpox and the risk of death from this disease is vaccination and re-vaccination.

In Liverpool, however, the child population is relatively well vaccinated, as the most recent available figure for 1933 shows that approximately 68·3 per cent. of the children born in Liverpool have been successfully vaccinated.

In Table VI are given the numbers of primary vaccinations in Liverpool during the year 1933 and five previous years.

TABLE VI.

PRIMARY VACCINATIONS.

	1928.	1929.	1930.	1931.	1932.	1933.
-Number of children born ...	19,120	19,145	19,183	18,917	18,543	17,448
-Number of primary vaccinations... ..	13,736	13,368	13,711	13,678	13,122	11,921
-Number of exemption certificates granted ...	1,596	1,907	2,036	1,993	2,134	2,295
-Number of certificates of insusceptibility sent ...	145	235	115	149	120	96

In Table VII are given the numbers of primary vaccinations during 1933, arranged in accordance with their occurrence in four districts.

TABLE VII.

PRIMARY VACCINATIONS IN DISTRICTS DURING 1933.

District.	Sub-District.	No. of children born.	No. of primary vaccinations.	No. of exemptions granted.	No. of certificates of insusceptibility.	Percentage of children successfully vaccinated.
1	TOXTETH PARK N.	1,748	1,074	228	12	61·4
	„ „ S.	1,195	688	190	9	57·6
	WAVERTREE ...	872	533	186	9	61·1
	WOOLTON ...	77	54	16	—	70·1
2	ABERCROMBY ...	2,816	1,803	492	20	64·0
	EXCHANGE ...	1,604	1,205	53	1	75·1
	EVERTON S.E. ...	1,730	1,211	162	4	70·0
	„ N.W. ...	839	657	78	1	78·3
3	WALTON ...	2,696	1,939	302	15	72·0
	WEST DERBY ...	1,005	683	199	9	68·0
	FAZAKERLEY ...	1,012	718	197	3	70·9
	EDGE HILL ...	928	595	124	13	64·1
4	KIRKDALE... ..	926	761	68	—	82·2
TOTAL ...		17,448	11,921	2,295	96	68·3
Summary	No. 1 District ...	3,892	2,349	620	30	60·4
	No. 2 District ...	6,989	4,876	785	26	69·8
	No. 3 District ...	5,641	3,935	822	40	69·8
	No. 4 District ...	926	761	68	—	82·2
	TOTAL ...	17,448	11,921	2,295	96	68·3

Typhus Fever.

No case occurred in Liverpool during 1934, and no indigenous case has occurred in the city during the course of the past sixteen years.

Anthrax.

The importation of large amounts of animal products, which are handled in transit to stores or manufactories, has associated with it the risk of human infection with the anthrax bacillus, causing a condition known as malignant pustule or cutaneous anthrax.

During the year 1934, two cases of this disease were admitted to the Liverpool City Hospital, Fazakerley. Both patients were men employed in landing imported hides. Details relating to these cases are given on page 164 of this Report.

The treatment facilities at the Fazakerley Hospital are available for cases coming from districts outside Liverpool.

The fatal cases frequently quoted in these and other reports emphasise the importance of early diagnosis and serum treatment in all cases of this disease, and the Health Department has taken steps to make facilities for diagnosis available for the public.

The business firms connected with the hide and skin trade in Liverpool and neighbourhood have also recognised the importance of the points enumerated above in regard to the early diagnosis and treatment of anthrax, and have conferred with the Liverpool Health Authorities with the object of taking further measures to educate the workers as to the risks involved in handling goods of animal origin, particularly hides and skins, and the precautions to be observed.

Posters have been printed on the subject and are affixed in suitable places. A pocket card has also been issued containing full information regarding the appearance and symptoms of cutaneous anthrax and advice on the action to be taken. Arrangements are also made to admit all cases of anthrax or suspected anthrax direct to Fazakerley Hospital.

During 1934, twenty-five persons, mainly employed at the docks, or in tanneries or wool factories, attended at the hospital with suspicious boils, pimples, skin abrasions and the like, for anthrax investigation. In no instance was that disease found. This practice is at all times encouraged, since early discovery of an infection implies early treatment and a greatly increased hope of recovery.

Typhoid and Paratyphoid Fever.

During the year there occurred 9 cases of typhoid fever and 14 cases of paratyphoid fever.

Typhoid fever differs from paratyphoid fever in fatality and complications and is also different epidemiologically. As a rule, typhoid fever can occur with equal frequency in either sex and is largely indifferent to age, whereas paratyphosis occurs in the young rather than the old and tends to occur in females rather than males. Large epidemics of typhosis are water-borne, and small outbreaks may be due to the consumption of infected shell-fish. On the other hand, the paratyphoid fevers are spread mainly by infected food, including infected milk. For these reasons distinction is made in the tables that follow between the typhoid and paratyphoid fevers.

In Table VIII are given the number of cases occurring in each type of infection together with the sex distribution. There were no deaths.

TABLE VIII.

TYPHOID AND PARATYPHOID FEVER.

Type.	Cases.		Deaths.	
	Male	Female	Male	Female
Typhoid Fever	7	2	0	0
Paratyphoid—A	—	—	—	—
Paratyphoid—B	7	7	0	0
Paratyphoid—C... ..	—	—	—	—
Unclassified	—	—	—	—

The 9 typhoid cases (of which 8 were indigenous) represent a case-rate of 0·01 per 1,000 of the population. The 14 paratyphoid cases (of which 12 were indigenous) represent a case-rate of 0·02 per 1,000 of the population. Complete freedom from death from either typhoid or paratyphoid fever is unique in the history of Liverpool.

In Table IX are given the age and sex distribution of both typhoid and paratyphoid fever cases.

TABLE IX.

TYPHOID AND PARATYPHOID FEVER.—AGE AND SEX DISTRIBUTION.

Age				Typhoid		Paratyphoid	
				Males	Female	Male	Female
Under 1 Year...	...			—	—	—	—
1 + ...	...			—	—	1	—
2 + ...	...			—	—	1	—
5 + ...	...			1	—	1	1
10 + ...	...			2	—	1	—
15 + ...	...			3	—	3	1
20 + ...	...			1	1	—	1
30 + ...	...			—	1	—	1
40 + ...	...			—	—	—	—
50 + ...	...			—	—	—	3
70 + ...	...			—	—	—	—
TOTAL ...	...			7	2	7	7

In Table X are given the months during which the cases occurred.

TABLE X.

TYPHOID AND PARATYPHOID FEVER.—MONTHS DURING WHICH CASES OCCURRED.

Month of Onset.	TYPHOID		PARATYPHOID	
	Male.	Female.	Male.	Female.
December, 1933... ..	1	...	...	...
January, 1934 ... ..	...	...	...	...
February, 1934 ... ..	...	1	...	...
March, 1934 ... ..	...	...	1	...
April, 1934 ... ..	...	1	2	...
May, 1934	1	...	...	...
June, 1934	1	...	1	...
July, 1934	2	...	1	...
August, 1934 ... ..	...	...	1	...
September, 1934 ... ..	...	...	...	...
October, 1934	2	...	1	2
November, 1934 ... ..	...	...	...	5
December, 1934 ... ..	...	...	...	...

Both the cases of typhoid fever and paratyphoid fever were sporadic in respect of their situation and the time of their occurrence, except that 4 of the 5 cases of paratyphoid fever occurring in November were from the ward of a General Hospital in which an unrecognised case had led to the infection of three other patients in the ward.

TYPHOID AND PARATYPHOID FEVERS IMPORTED FROM OVERSEAS.

During the year 4 cases of typhoid fever (3 males and 1 female) and 1 case of paratyphoid fever A (female), were imported from overseas. Among those patients there were no deaths. These cases are not included in the Tables in the preceding paragraphs.

Undulant Fever.

One case of undulant fever was reported during the year, occurring in a female adult who is a member of the staff of one of the Corporation Hospitals. The origin of the infection is not known.

Diphtheria.

During 1934, 2,913 cases of diphtheria were reported, a case-rate of 3·4 per 1,000 of the population. Of these cases, 177 proved fatal, making a fatality rate of 6·1 per 100 cases and a mortality rate of 20·4 per 100,000 of the population.

In Table XI are given the numbers of cases of diphtheria and of deaths from this disease during 1934 in the various districts of Liverpool.

TABLE XI.
DIPHTHERIA—CASES AND DEATHS DURING 1934.

District.	Estimated Population, 1934.	Cases.	Deaths.	Attack Rate per 1,000 population.	Death Rate per 100,000 population.	Case Fatality Rate %	Percentage Proportion of Secondary to Primary Cases.	Percentage Proportion of Children under 2 years of age to Total Cases.	Percentage Proportion of Children under 5 years of age to Total Cases.
1. Exchange	72,822	269	10	3.7	13.7	3.7	1.5	5.6	34.9
2. Abercromby	41,496	141	8	3.4	19.3	5.7	6.4	1.4	28.4
3. Everton	108,963	379	25	3.5	22.9	6.6	3.9	4.5	30.3
4. Kirkdale	63,798	259	15	4.1	23.5	5.8	3.5	5.8	30.5
5. Edge Hill	80,007	223	18	2.8	22.5	8.1	0.9	5.8	29.6
6. Toxteth	131,898	422	31	3.2	23.5	7.3	4.7	3.1	28.9
7. Walton	90,888	325	10	3.6	11.0	3.1	5.5	1.5	22.2
8. West Derby	105,304	372	17	3.5	16.1	4.6	9.1	3.0	24.2
9. Wavertree	103,871	264	22	2.5	21.2	8.3	6.1	3.4	30.3
10. Fazakerley.....	59,386	253	20	4.3	33.7	7.9	4.3	2.4	21.7
11. Woolton.....	7,580	6	1	0.8	13.2	16.6	—	—	16.6
Central Districts (1 to 2).....	114,318	410	18	3.6	15.7	4.4	3.2	4.1	30.3
Middle Districts (3 to 7)	475,554	1,608	99	3.4	20.8	6.2	4.0	3.9	28.2
Outer Districts (8 to 11)	276,141	895	60	3.2	21.8	6.7	6.8	2.9	25.2
Whole City.....	866,013	2,913	177	3.4	20.4	6.1	4.7	3.6	27.9

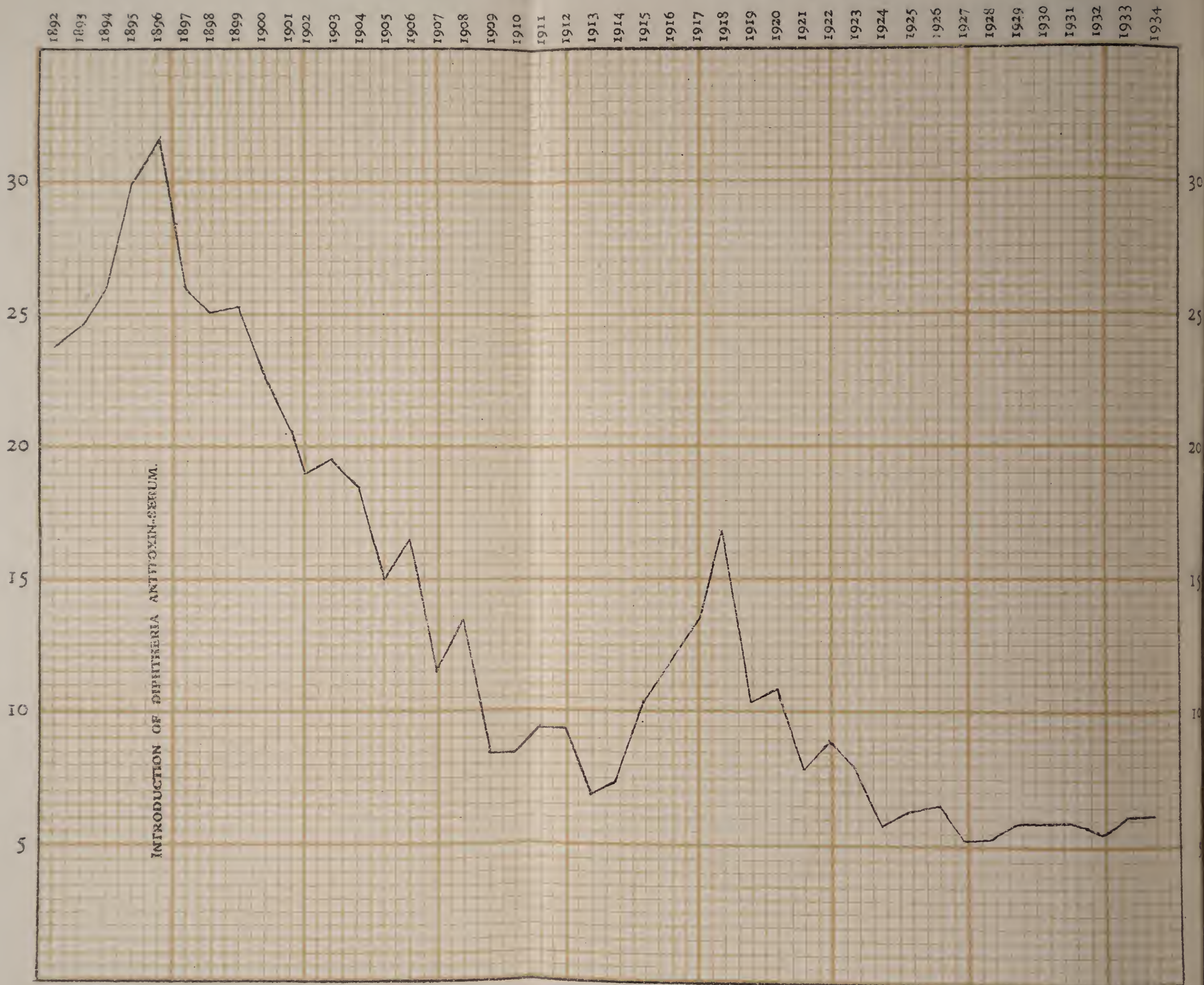
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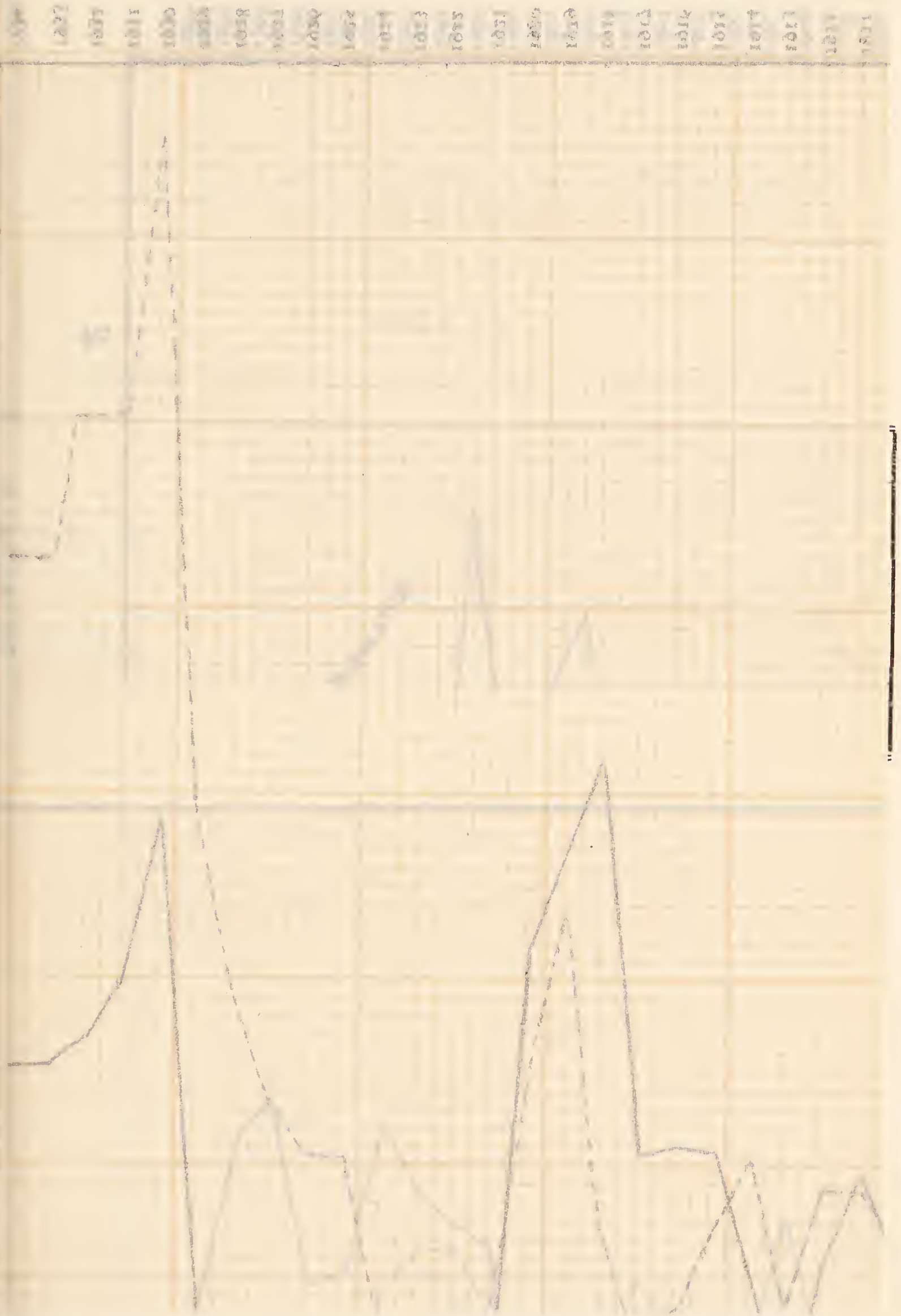
CITY OF LIVERPOOL.

DIPHTHERIA 1892-1934 FATALITY RATES PER 100 CASES.



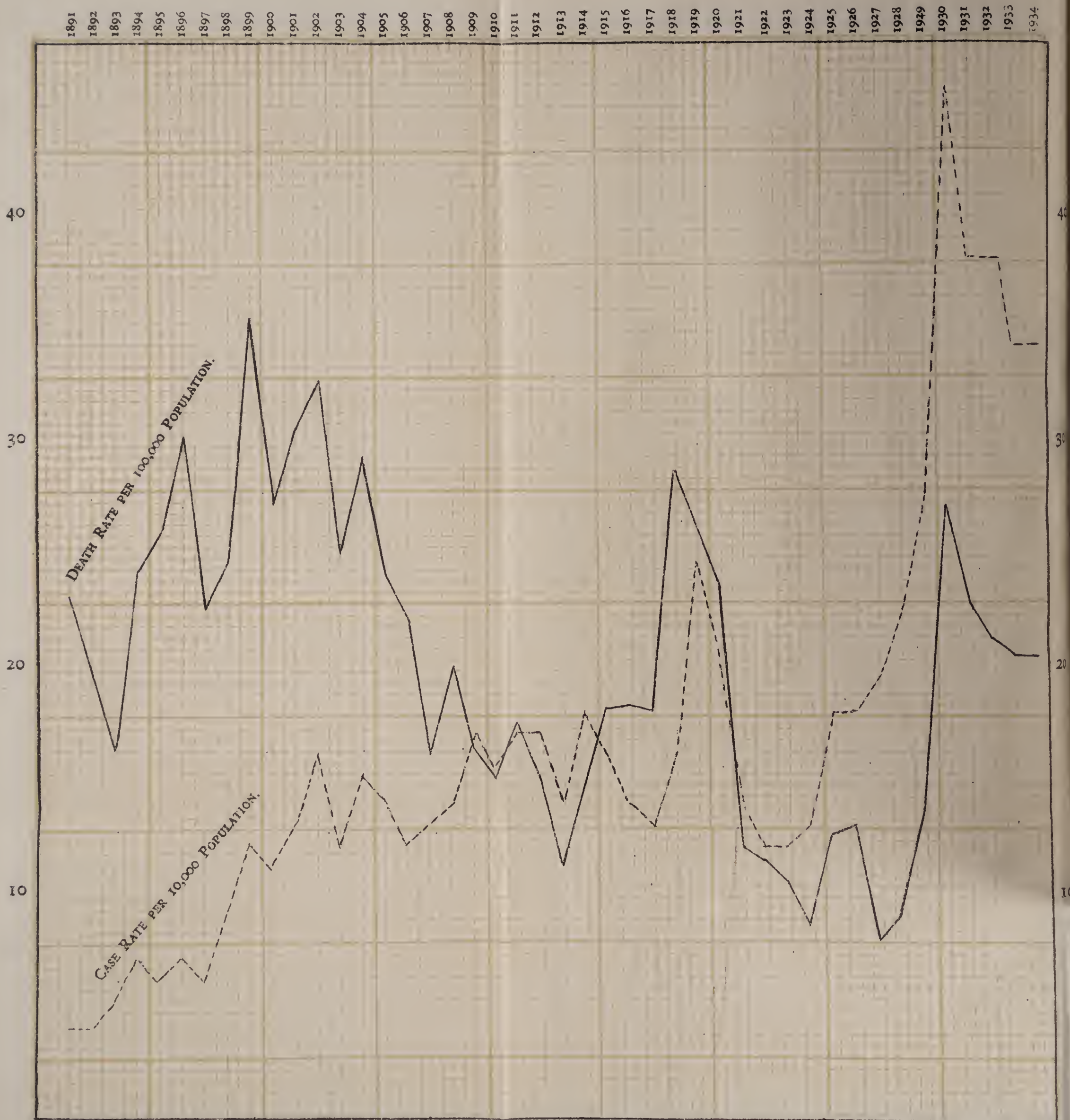
LIVERPOOL

POPULATION AND DEATH RATES PER 100,000 POPULATION



CITY OF LIVERPOOL.

DIPHTHERIA 1891-1934 CASE RATES PER 10,000 POPULATION AND DEATH RATES PER 100,000 POPULATION.



In Table XII are given the number of cases of diphtheria and of deaths from this disease during 1934, and also during nine previous years.

TABLE XII.

DIPHTHERIA—CASES AND DEATHS DURING 1934 AND NINE PREVIOUS YEARS.

	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934
Cases	1,504	1,519	1,664	1,902	2,336	4,023	3,256	3,312	2,917	2,913
Case-rate per 1,000 population	1·8	1·8	1·9	2·2	2·7	4·6	3·8	3·8	3·4	3·4
Deaths	106	112	90	100	139	236	197	184	177	177
Death-rate per 100,000 population	12·6	13·2	10·5	11·5	15·9	26·8	23·0	21·3	20·4	20·4
Fatality rate per 100 cases	7·0	7·4	5·4	5·3	5·9	5·9	6·0	5·5	6·1	6·1

Prior to 1857 there were no records of the deaths from diphtheria, the heading croup presumably containing all the deaths from this disease; from 1858 onwards, however, the term diphtheria has steadily replaced croup as a certified cause of death.

The accompanying graphs show how great has been the decline in the fatality of this disease since 1892, and also the fluctuations and decline in the annual number of cases during the same period of time.

In Table XIII are given details relating to ages at death, ages of notified cases, and percentage fatality at various ages, etc.

TABLE XIII.

DEATHS FROM DIPHTHERIA.

DISTRICTS.	QUARTERS.								YEAR 1934		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Exchange	—	4	1	—	—	1	1	3	2	8	10
Abercromby	1	1	2	—	1	—	1	2	5	3	8
Everton	7	5	2	1	1	6	1	2	11	14	25
Kirkdale	4	1	4	1	1	1	2	1	11	4	15
Edge Hill	1	2	1	3	—	4	3	4	5	13	18
Toxteth	6	5	—	3	5	5	5	2	16	15	31
Walton	—	2	2	1	1	2	—	2	3	7	10
West Derby	3	4	3	3	3	1	—	—	9	8	17
Wavertree	2	3	3	1	1	3	7	2	13	9	22
Fazakerley	3	2	3	3	2	1	1	5	9	11	20
Woolton	—	1	—	—	—	—	—	—	—	1	1
City	27	30	21	16	15	24	21	23	84	93	177

AGES AT DEATH.

Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	60—	All Ages.
2	12	16	23	26	75	15	2	1	3	1	1	—	177

AGES OF NOTIFIED CASES.

27	79	171	257	280	1167	492	152	188	68	20	10	2	2913
68%						32%							

PERCENTAGE FATALITY AT EACH AGE.

7.4	15.2	9.3	8.9	9.3	6.4	3.0	1.3	0.5	4.4	5.0	10.0	0.0	6.1
-----	------	-----	-----	-----	-----	-----	-----	-----	-----	-----	------	-----	-----

N.B.—Deaths in public institutions are transferred to the districts from which the patients came.

It was in 1890 that diphtheria and membranous croup became notifiable. In 1895 treatment by antitoxin was introduced. Since that time there has been a steady reduction in the fatality-rate. Whereas in 1895, 31 patients out of every 100 died in Liverpool, the percentage fatality-rate now varies between 5% and 7%. This favourable result is greatly helped by the admission to hospital of all patients willing to go. During 1934, 2,803 patients were admitted to hospital out of 2,913 cases notified, an admission rate of 96%.

It was hoped at one time that extensive hospitalization and improvements in treatment would result in a material reduction in the number of cases occurring. This has not been so. On the contrary, in Liverpool, there has been a considerable rise in the number of cases and, since 1929, there has been an epidemic which has taxed the hospital accommodation severely and has given rise to considerable anxiety.

There is reason to believe that the way out of this dilemma lies in the extensive protection of children against diphtheria by means of inoculation. In later paragraphs ⁽¹⁾ the steps which have been taken successfully in this direction are described.

In this connection the low attack-rate in Woolton for 1934 during the current year (0·8 per 1,000) and in 1933 (1·8 per 1,000) compared with those for 1932 (3·3 per 1,000), 1931 (7·9 per 1,000) and 1930 (10·9 per 1,000), are noticeable. It was in November, 1931, that a campaign of inoculation was started in Woolton to which reference was made in the Annual Report for 1932.

Scarlet Fever.

During 1934, 3,574 cases of scarlet fever were reported, a case-rate of 4·1 per 1,000 of the population. Of these cases, 19 proved fatal, making a fatality-rate of 0·5 per 100 cases, and a mortality-rate of 2·2 per 100,000 of the population.

In Table XIV are given the numbers of cases of scarlet fever and of deaths from this disease during 1934 in the various districts of Liverpool.

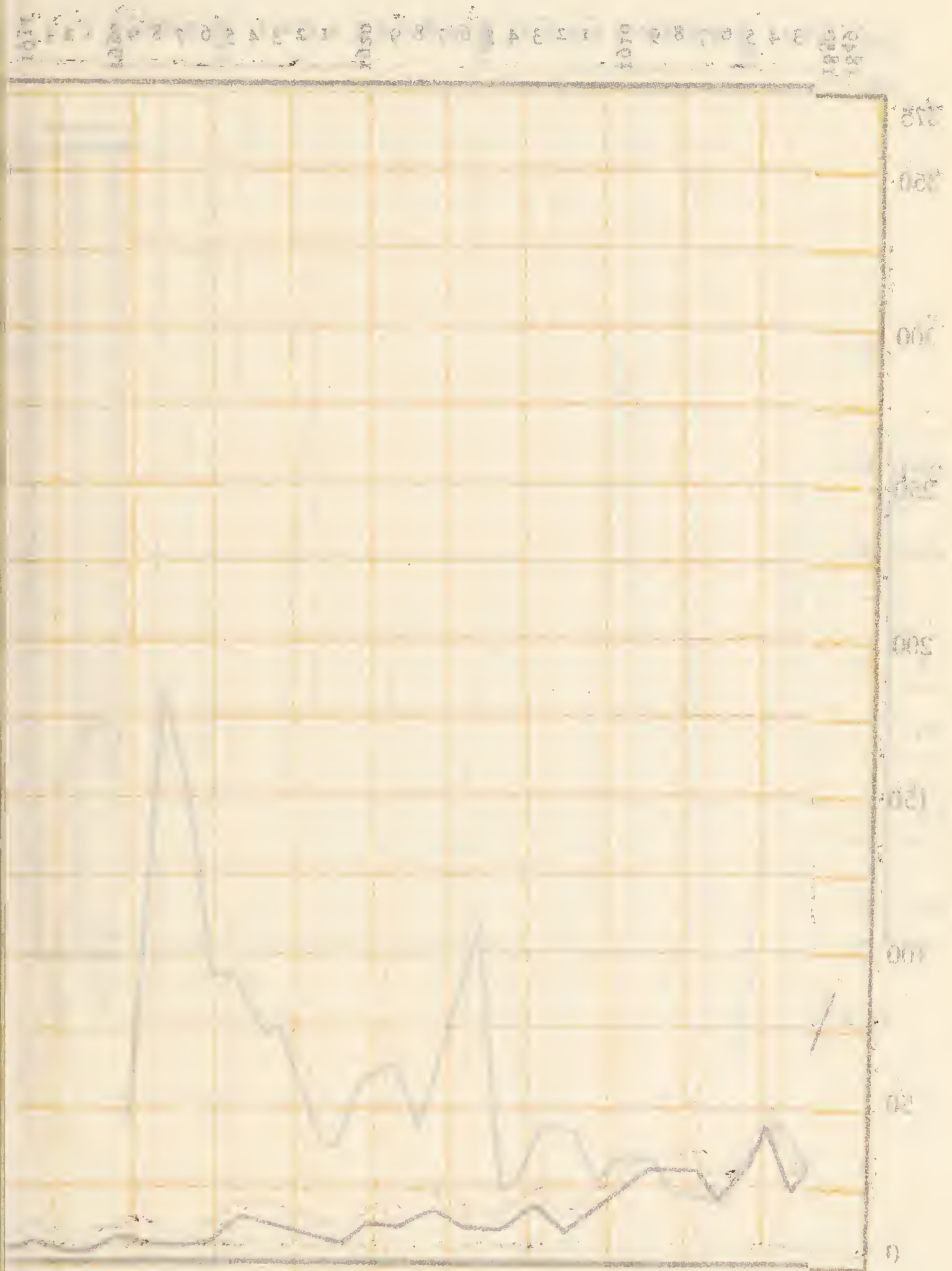
⁽¹⁾ Page 59.

TABLE XIV.
SCARLET FEVER—CASES AND DEATHS DURING 1934.

District.	Estimated Population, 1934.	Cases.	Deaths.	Attack Rate per 1,000 population.	Death Rate per 100,000 population.	Case Fatality Rate %	PERCENTAGE.		
							Proportion of Secondary to Primary Cases.	Proportion of Children under 2 years of age to Total Cases.	Proportion of Children under 5 years of age to Total Cases.
1. Exchange	72,822	155	—	2.1	—	—	2.6	9.7	40.0
2. Abercromby	41,496	151	—	3.6	—	—	9.3	5.3	30.5
3. Everton	108,963	376	—	3.4	—	—	3.7	6.9	35.6
4. Kirkdale	63,798	219	—	3.4	—	—	3.2	3.2	30.1
5. Edge Hill	80,007	343	3	4.3	3.7	0.9	2.9	5.2	26.5
6. Toxteth	131,898	472	3	3.6	2.3	0.7	5.1	5.3	26.3
7. Walton	90,888	384	3	4.2	3.3	0.8	3.4	1.6	21.9
8. West Derby	105,304	526	2	5.0	1.9	0.4	10.5	2.1	20.3
9. Wavertree	103,871	530	6	5.1	5.8	1.1	5.0	1.9	16.6
10. Fazakerley	59,386	412	2	6.9	3.4	0.5	4.4	3.6	24.5
11. Woolton.....	7,580	6	—	0.8	—	—	—	—	33.3
Central Districts (1 to 2).....	114,318	306	—	2.7	—	—	5.9	7.5	35.3
Middle Districts (3 to 7)	475,554	1,794	9	3.8	1.9	0.5	3.8	4.6	27.8
Outer Districts (8 to 11)	276,141	1,474	10	5.3	3.6	0.7	6.7	2.4	20.2
Whole City.....	866,013	3,574	19	4.1	2.2	0.5	5.2	3.9	25.3

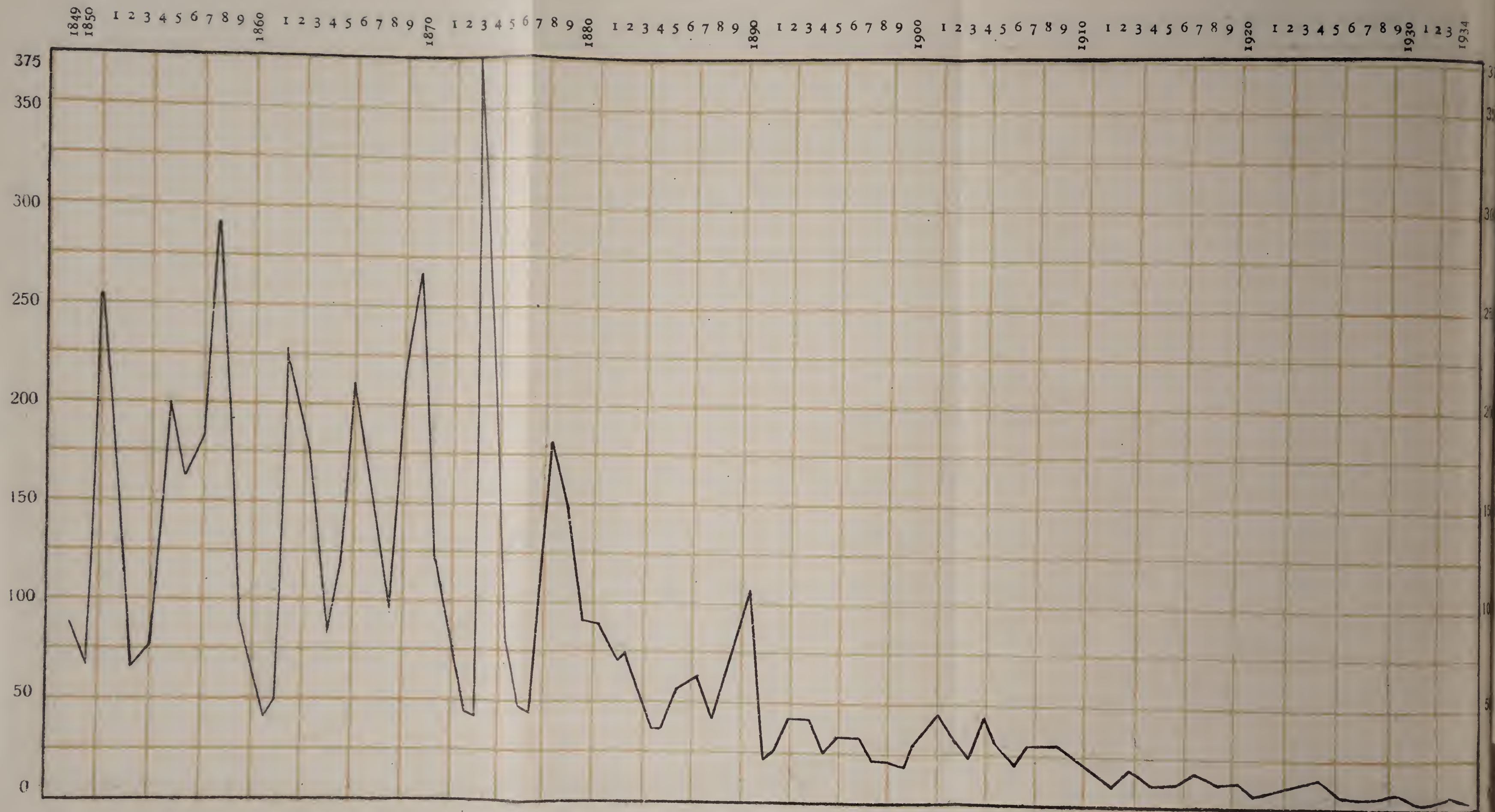
CITY OF LIVERPOOL

Figure 1445 1955 Death Rate per 1000



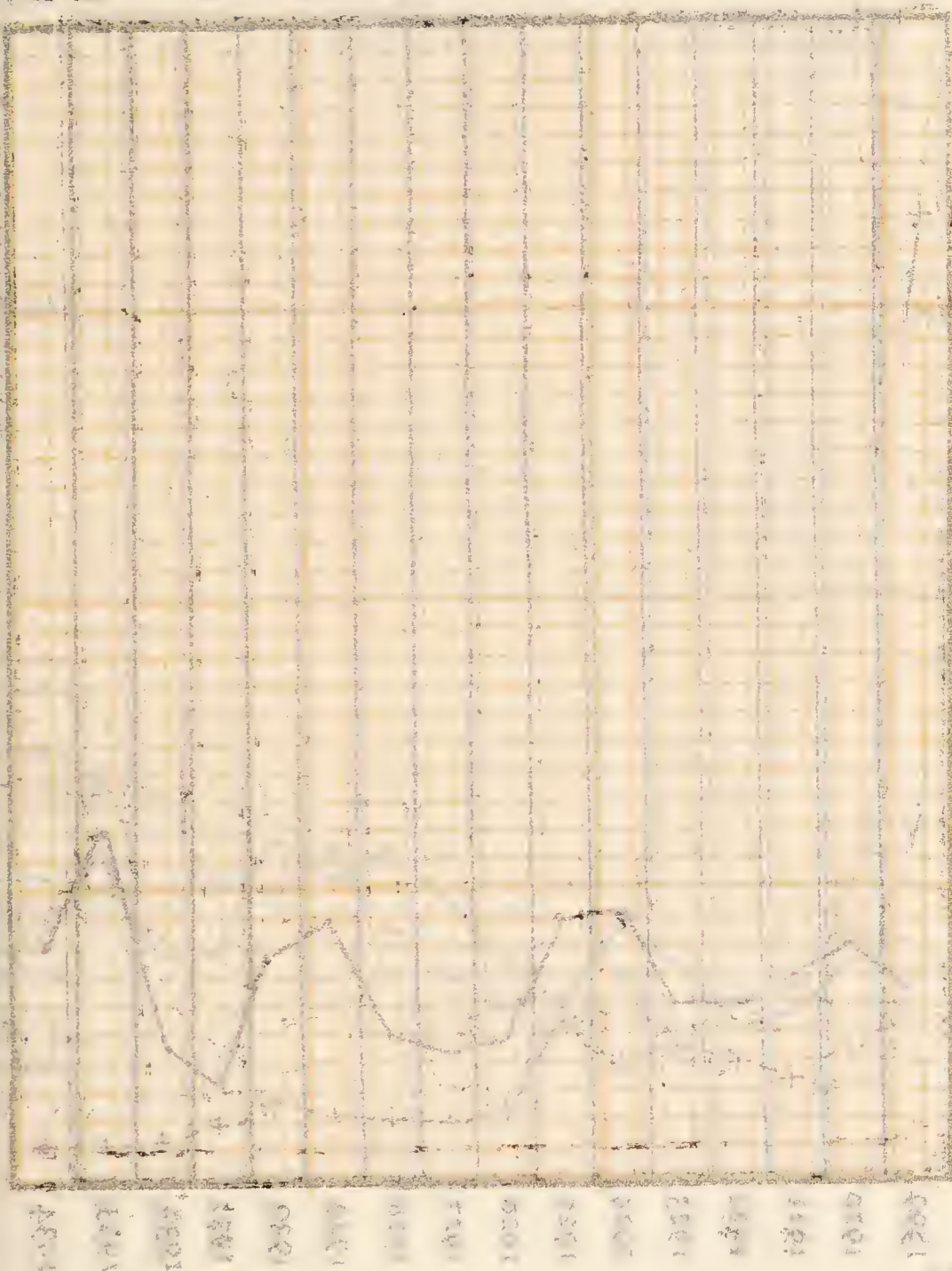
CITY OF LIVERPOOL.

Scarlet Fever 1849-1934 Death Rates per 100,000 Population.



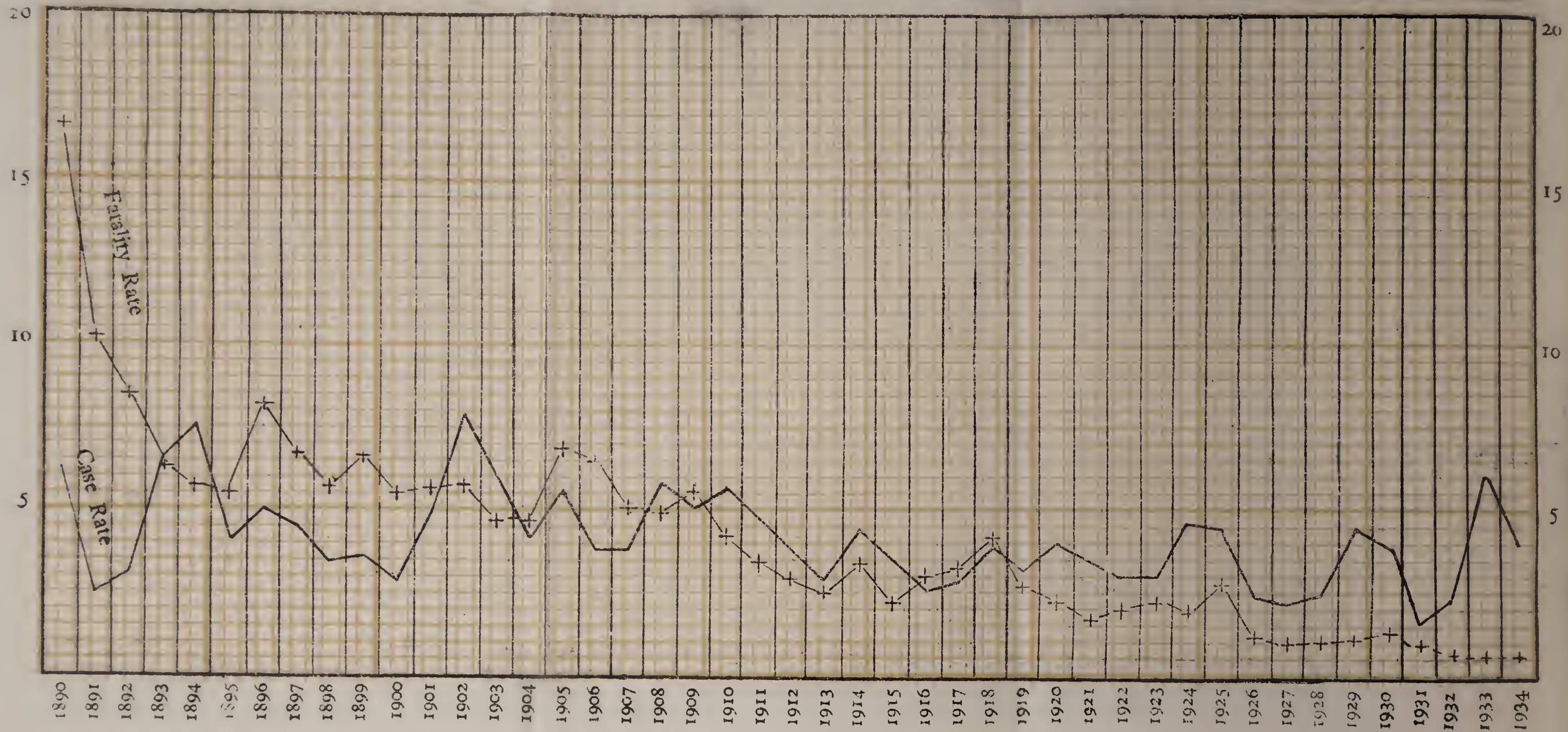
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RAILWAY AND CANAL



CITY OF LIVERPOOL.

Scarlet Fever 1890--1934 : Case Rates per 1000 Population, and Fatality Rates per 100 Cases.



In Table XV are given the numbers of cases of scarlet fever and of deaths from this disease during 1934 and also during nine previous years.

TABLE XV.

SCARLET FEVER—CASES AND DEATHS DURING 1934 AND NINE PREVIOUS YEARS.

	1925.	1926.	1927.	1928.	1929.	1930.	1931.	1932.	1933.	1934.
cases	3,561	2,244	1,640	2,193	3,989	3,069	1,407	1,925	5,286	3,574
Rate per 1,000 inhabitants	4.2	2.6	1.9	2.5	4.6	3.5	1.6	2.2	6.1	4.1
Deaths	93	24	12	19	41	35	11	11	27	19
Death-rate per 100,000 inhabitants	11.0	2.8	1.4	2.2	4.7	4.0	1.2	1.3	3.1	2.2
Fatality rate per 100 cases	2.6	1.1	0.7	0.9	1.0	1.1	0.8	0.6	0.5	0.5

In Table XVI are given details relating to ages at death, ages of notified cases and percentage fatality at various ages, etc. :—

TABLE XVI.

DEATHS FROM SCARLET FEVER.

DISTRICTS.	QUARTERS.								YEAR.		
	March.		June.		Sept.		Dec.		1934.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Exchange .....	...	...	...	...	...	...	...	...	...	...	...
Abercromby .....	...	...	...	...	...	...	...	...	...	...	...
Everton .....	...	...	...	...	...	...	...	...	...	...	...
Kirkdale .....	...	...	...	...	...	...	...	...	...	...	...
Edge Hill .....	...	...	1	...	...	2	...	...	1	2	3
Toxteth .....	...	1	...	2	...	...	...	...	...	3	3
Walton .....	...	1	1	...	...	1	...	...	1	2	3
West Derby	2	...	...	...	...	...	...	...	2	...	2
Wavertree	2	...	1	1	...	...	1	1	4	2	6
Fazakerley .....	...	1	...	1	...	...	...	...	...	2	2
Woolton .....	...	...	...	...	...	...	...	...	...	...	...
City	4	3	3	4	...	3	1	1	8	11	19

AGES AT DEATH.

Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	60 and up- wards.	All Ages.
1	2	...	2	...	7	2	1	1	1	...	1	1	19

AGES OF NOTIFIED CASES.

29	112	193	278	293	1596	666	156	141	77	23	8	2	3574
25.3%					44.7%	18.6%	11.4%						

PERCENTAGE FATALITY AT EACH AGE.

3.4	1.8	—	0.7	...	0.4	0.3	0.6	0.7	1.3	...	12.5	50.0	0.5
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N.B.—Deaths in institutions are transferred to the districts from which the patients came.

The epidemic of scarlet fever which prevailed during the last four months of 1933, declined towards the end of the first quarter of 1934. The number of cases notified during the year, namely, 3,574, was considerably less than that of the previous year, when 5,286 cases were notified. The number admitted to hospital for treatment was 2,432, a figure which is 68% of the total number notified.

Immunization against Diphtheria and Scarlet Fever.

The development of the scheme for inoculation against diphtheria and scarlet fever during the years 1925 to 1932 was described in the annual report for 1932. During 1933 and 1934 the work has been continued on similar lines, with the results for 1934 described in the tables which follow. It will facilitate description if inoculation against diphtheria and inoculation against scarlet fever are dealt with separately.

Inoculation against Diphtheria.

In Table XVII is given a numerical summary of the number of completed inoculations against diphtheria since 1925.

TABLE XVII.

NUMBER OF COMPLETED DIPHTHERIA INOCULATIONS.

Where or by whom inoculated.	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934
INOCULATION CLINICS :										
Carnegie	68	366	572	333	422
Townsend Avenue	381	340	354
SCHOOLS :										
Public Elementary	153	3904	3895	4917
Residential	231	49	22	59	76	123	264	681	433
MUNICIPAL HOSPITALS :										
Wazakerley	31	116	493	635	1264	434
Fever Hospitals—North, South and East	57	151	141	205
Alder Hey	62	121	132	122
Olive Mount	38	...	174	277	92
Other Municipal Hospitals	81
Miscellaneous	16	98	55	90	93	171	190	272	173	38
Medical Practitioners	15	99	173	135	123
TOTALS	16	329	104	112	183	484	1543	6647	7371	7221

GRAND TOTAL ... 24,010

In addition to the 7,221 persons, each of whom during 1934 received three injections of diphtheria prophylactic, there were 619 persons each of whom received two injections only and who failed to attend for the third dose. In all probability these persons received from this incomplete treatment some degree of protection.

On two occasions the medical practitioners of Liverpool have been asked to avail themselves of the offer of diphtheria prophylactic provided free of charge by the Health Department, but the response has been very disappointing. During the year the work of private practitioners accounted for 1·7 per cent. only of the total work accomplished, 123 persons treated out of a total of 7,221.

An analysis according to age of the persons who had completed a full immunization course is given in Table XVIII.

It is the children under 10 years of age who are the more important, and the greater the number of persons of this age who are immunized the better. One of the practical difficulties in this work is that of securing the immunization of a high proportion of infants under 5 years of age. Clearly, it is more valuable to the community to protect very young children than it is to protect older ones, having regard to the fact that children, as they grow older, tend to become immune as the result of repeated sub-infections.

THE OCCURRENCE OF DIPHTHERIA IN INOCULATED PERSONS.

During the year 28 cases of diphtheria occurred in persons previously inoculated with T.A.F., 6 among persons inoculated with M.T. Toxoid, 5 among those inoculated with T.A.M., and 2 among a number who had been given one dose of either T.A.M. or M.T. Toxoid followed by two doses of T.A.F. All these cases recovered except one, a child four years of age, inoculated with M.T. Toxoid in three doses two years previously, and admitted to hospital on the eighth day of the illness.

COMPARATIVE CASE-RATES.

In Table XIX are given the comparative case-rates among non-inoculated persons and those who had been inoculated either with T.A.F. or M.T. Toxoid.

TABLE XIX.

COMPARATIVE CASE-RATES DURING 1934 AMONG INOCULATED AND
NON-INOCULATED PERSONS.

NOT INOCULATED.				INOCULATED.					
Age	Population not inoculated.	Cases of diphtheria.	Case-rate per 1,000.	T.A.F.			M.T. Toxoid.		
				Population inoculated with T.A.F. at 31.5.34.	Cases of diphtheria during 1934.	Case-rate per 1,000.	Population inoculated with M.T. Toxoid at 31.5.34.	Cases of diphtheria during 1934.	Case-rate per 1,000.
Under 1	17,291	27	1·6	0	0	Nil.	0	0	Nil.
1+	16,746	79	4·7	58	0	Nil.	0	0	Nil.
2+	16,224	171	10·5	202	0	Nil.	3	0	Nil.
3+	15,869	257	16·2	339	1	3·0	103	0	Nil.
4+	15,567	280	17·9	448	0	Nil.	199	1	5·0
5+	15,090	297	19·7	1,262	0	Nil.	132	1	7·6
6+	13,894	300	21·6	2,527	5	1·9	142	0	Nil.
7+	13,109	234	17·8	3,309	9	2·7	239	1	4·2
8+	13,996	165	11·8	2,743	5	1·8	229	0	Nil.
9+	16,157	171	10·6	1,425	2	1·4	222	1	4·5
Under 10	153,943	1,981	12·9	12,313	22	1·8	1,269	4	3·2
10+	691,662	932	1·3	3,771	6	1·6	1,852	2	1·1

It is noteworthy that the case-rate among children under 10 years of age who had been inoculated with T.A.F. was only one-seventh the rate among children not inoculated. The rate among children inoculated with M.T. Toxoid was approximately one-quarter of that

among children not inoculated, figures less favourable than those resulting from the use of T.A.F. It was for that reason that the use of M.T. Toxoid was discontinued in May, 1932.

The use of strong formol toxoid, which commenced towards the end of 1933, was continued. At first it was given to children under four years of age only, because of the tendency to cause reactions in older children. However, the absence of reactions led to the extension of its use to children of four and five years of age. It was tried in children of 6 years, but given up because reactions occurred. The present routine is to give 1 cc. of strong formol toxoid on three occasions, at fortnightly intervals, to children of 5 years of age and under, and to give 1cc. of toxoid-antitoxin floccules on three occasions, at fortnightly intervals, to persons of 6 years of age and over. In this way the occurrence of unpleasant reactions is reduced to a minimum. To the end of 1934, 738 children had received formol toxoid, and among them no cases of diphtheria had occurred. However, this number is too small, and the inoculations are too recent for the result to be significant.

Schick tests performed during the year numbered 434, of which 78 were positive.

Inoculation against Scarlet Fever.

A numerical description of the number of persons inoculated against scarlet fever since 1927, the year in which this work commenced, is given in Table XX, below.

TABLE XX.

NUMBER OF COMPLETED SCARLET FEVER INOCULATIONS.

Where or by whom inoculated.	1927	1928	1929	1930	1931	1932	1933	1934
INOCULATION CLINICS :								
Carnegie	—	—	—	60	352	508	303	366
Townsend Avenue	—	—	—	—	—	395	323	313
MUNICIPAL HOSPITALS :								
Fazakerley	—	—	—	—	165	197	121	120
Fever Hospitals—North, South and East	—	—	—	—	15	57	7	10
Alder Hey	—	—	—	—	36	111	132	143
Olive Mount	—	—	—	—	—	11	34	61
RESIDENTIAL SCHOOLS...	61	18	28	31	26	218	465	478
MISCELLANEOUS	—	65	195	9	178	191	74	45
MEDICAL PRACTITIONERS ...	—	—	—	15	75	129	105	94
TOTALS ...	61	83	223	115	847	1,817	1,564	1,630

GRAND TOTAL ... 6,340

During the course of the year it was decided to increase the final dose of scarlet fever prophylactic to 40,000 skin test doses in place of 20,000. The present scale of doses is 500, 2,000, 10,000 and 40,000 skin test doses at weekly or fortnightly intervals, usually combined with simultaneous inoculation against diphtheria.

During the year 347 Dick tests were carried out, of which 84 were positive.

Measles.

In Liverpool, measles is a disease notified on a voluntary basis. During 1934, 11,055 cases were reported, 9,477 by notification from medical practitioners and 1,578 from schools, etc. The total number represents a case-rate of 12·76 per 1,000 of the population. The number of deaths was 229, making a fatality-rate of 2·0 per 100 cases and a mortality-rate of 26·4 per 100,000 of the population.

In Table XXI are given the numbers of cases of measles and of deaths from this disease during 1934 and also during nine previous years.

TABLE XXI.

MEASLES—CASES AND DEATHS DURING 1934 AND NINE PREVIOUS YEARS.

	1925.	1926.	1927.	1928.	1929.	1930.	1931.	1932.	1933.	1934.
Cases	11,202	8,694	10,606	6,025	10,546	5,966	7,572	8,816	10,004	11,055
Case rate per 1,000 inhabitants	13·3	10·3	12·4	6·96	13·19	6·78	8·84	10·23	11·55	12·76
Deaths	406	221	345	177	427	170	369	312	299	229
Death rate per 100,000 inhabitants	48·3	26·0	40·3	20·4	50·1	19·3	43·1	36·2	34·5	26·4
Fatality rate per 100 cases	3·6	2·5	3·2	2·9	4·0	2·8	4·9	3·5	3·0	2·0

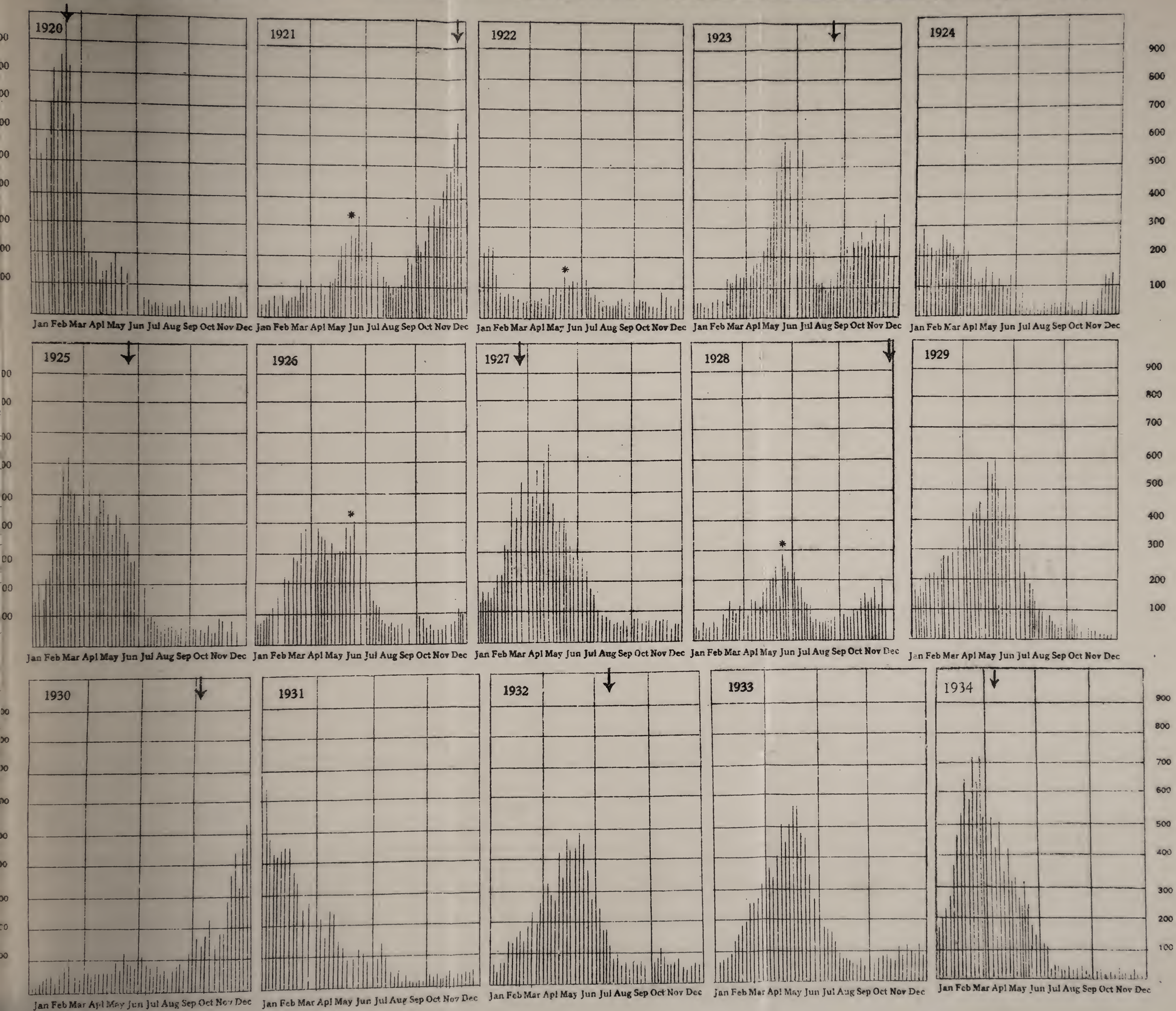
Of recent years increasing use has been made of the use of the serum of patients convalescent from measles in children who have been in contact with the disease in hospitals, etc. During the year a scheme for obtaining serum from adults who had formerly suffered from measles was put into operation and further reference to that use of this serum will be found on page 169.

CITY OF LIVERPOOL.

Cases of Measles during the years 1920 to 1934

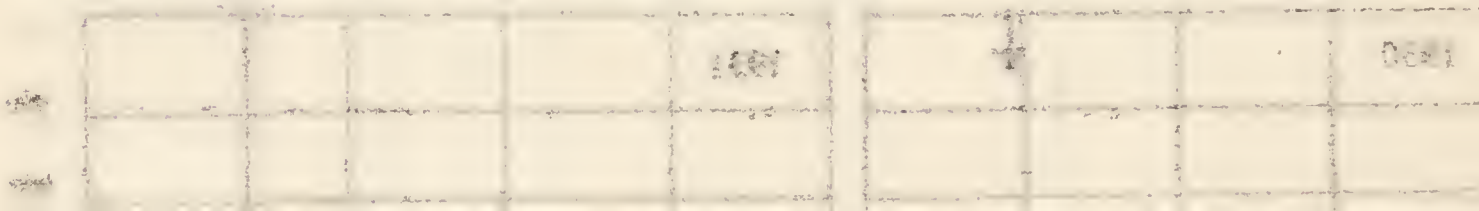
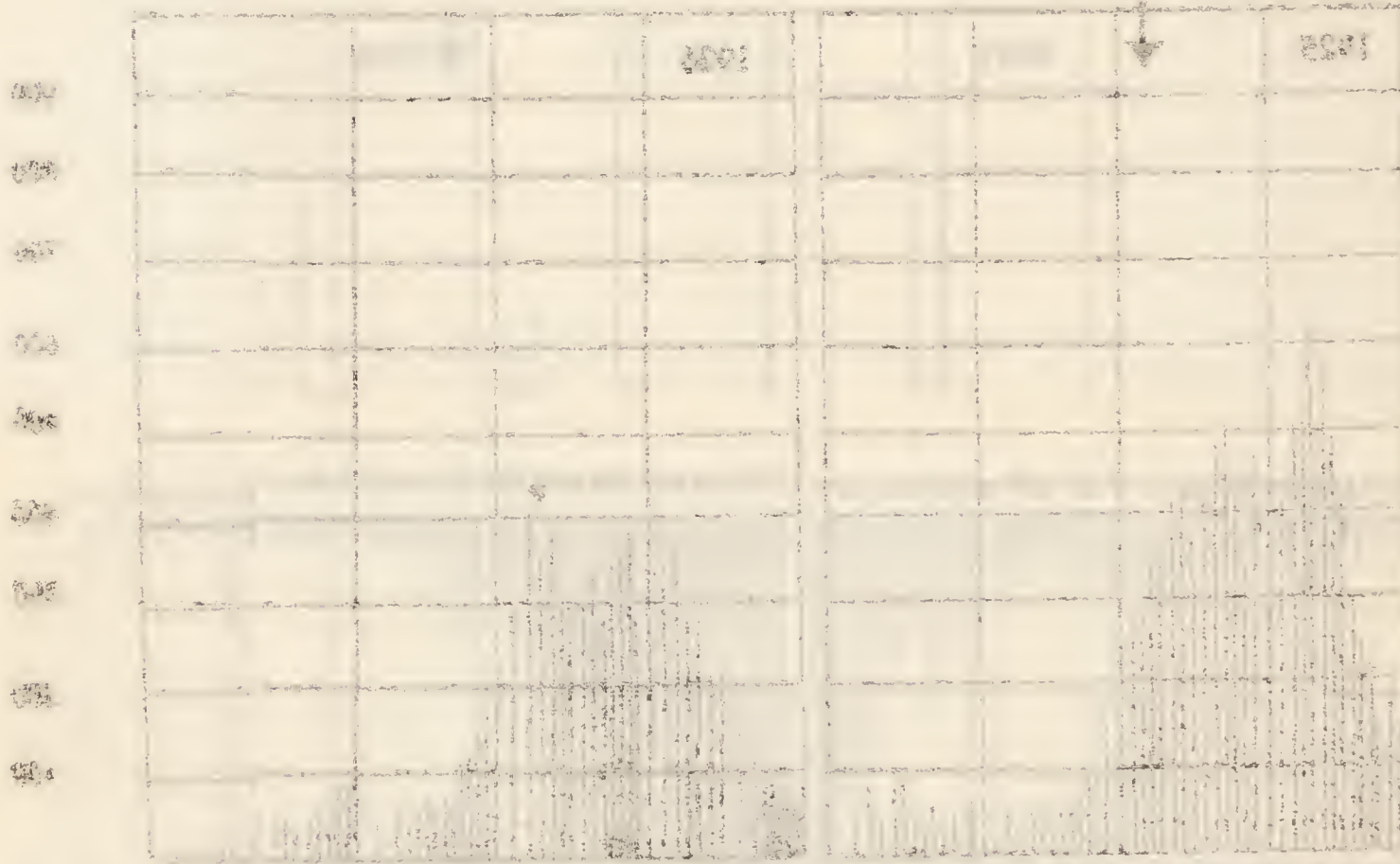
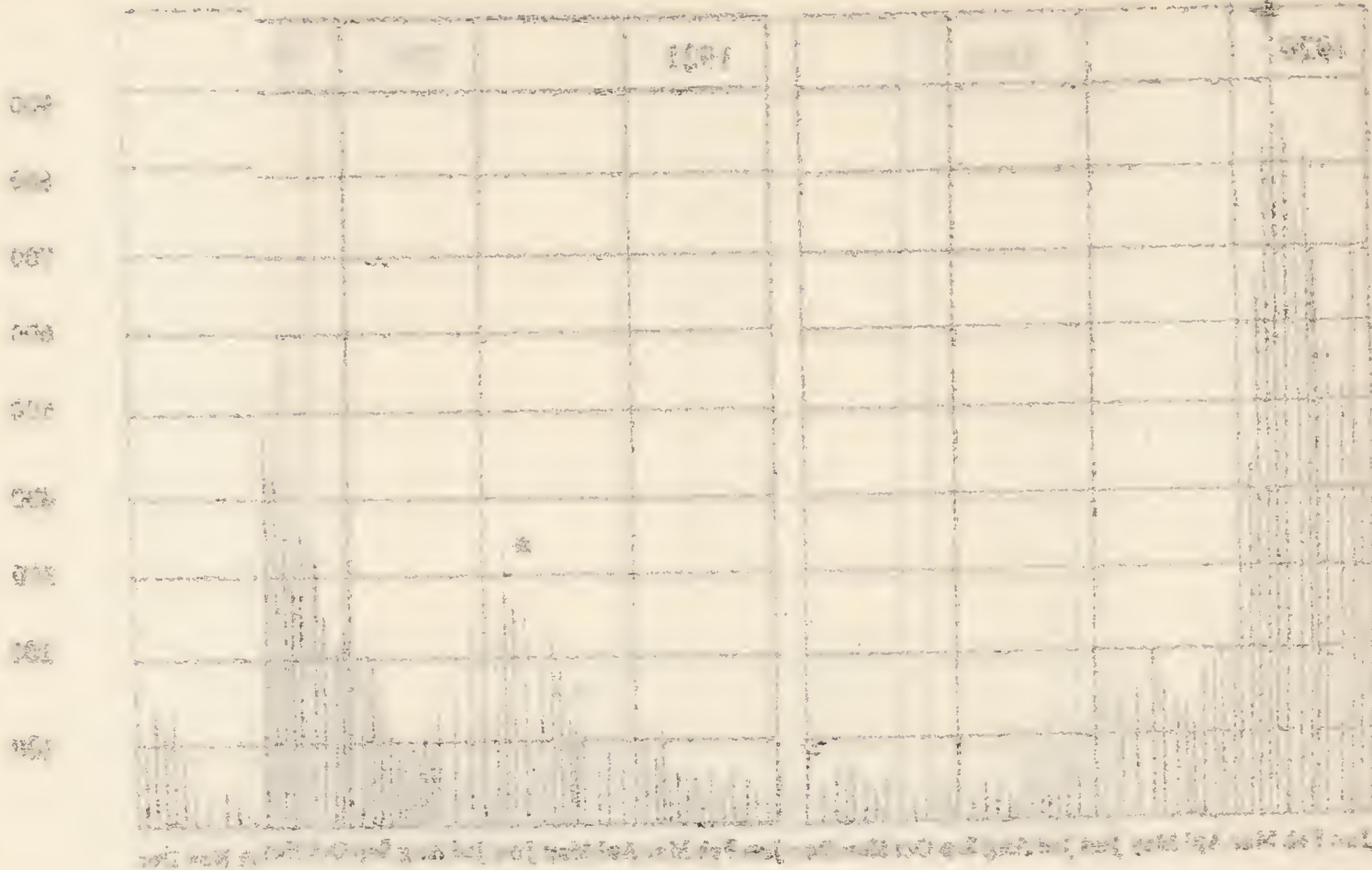
The arrows show recurring intervals of 92 weeks.

The asterisks indicate the normal seasonal rise in the second quarter of the year.



PLAN OF LIVERPOOL

Case of Mumps during the years 1890 & 1891



In Table XXII are given details relating to ages at death, ages of cases and percentage fatality at various ages, etc.

TABLE XXII.
DEATHS FROM MEASLES.

DISTRICTS.	QUARTERS.								YEAR 1934.			Death Rates per 100,000 Population.
	March		June.		Sept.		Dec.					
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.	
Exchange	14	16	14	11	...	...	...	...	28	27	55	72
Abercromby	4	2	5	3	...	...	...	...	9	5	14	34
Everton	11	9	9	8	...	1	...	1	20	19	39	36
Kirkdale	7	2	8	2	...	...	...	...	15	4	19	30
Edge Hill	7	7	5	5	1	1	...	...	13	13	26	33
Toxteth	8	20	3	2	1	1	1	...	13	23	36	27
Walton	6	2	2	2	...	...	...	...	8	4	12	13
West Derby	3	1	1	2	...	1	...	...	4	4	8	8
Wavertree	5	1	4	5	...	...	...	...	9	6	15	14
Fazakerley	2	...	2	...	1	...	...	...	5	...	5	8
Woolton .....	...	...	...	...	...	...	...	...	...	...	...	0
City	67	60	53	40	3	4	1	1	124	105	229	26

AGES AT DEATH.													
Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	60—	All Ages.
44	109	37	17	11	9	...	...	1	...	...	1	...	229

AGES OF CASES.													
676	1215	1175	1099	1201	4562	725	402						11055

PERCENTAGE FATALITY AT EACH AGE.													
6.5	9.0	3.1	1.5	0.9	0.2	...	0.5						2.0

N.B.—Deaths in public institutions are transferred to the districts from which the patients came.

The mortality in measles depends mainly upon the age at which infection occurs. As shown in Table XXII, 190 out of 229 deaths were in children under 3 years of age. The fatality rate at each age was lower than at corresponding ages in 1933, and these again were lower in 1932. The cause of these changes in fatality are not well understood.

An Order of the Ministry of Health authorises local authorities to provide medical assistance including nursing for the poorer inhabitants of their district, and two nurses of the Health Visitors' Staff are engaged on this work, assisted by other members of the staff as occasion requires. In consequence of the visits of these nurses, many children have benefited from the assistance and advice given, and in some instances children have been removed for hospital treatment who would otherwise have been left at home without adequate care and attention. The visits, etc., made by these nurses in the course of 1934 were as follows:—

New cases visited during the year ...	...	7,865
Cases nursed	„ „ ...	404
Re-visits to cases	„ „ ...	4,614

During 1934, 820 patients were admitted to hospital out of the 11,055 which came to the notice of the Health Department, an admission rate of 7·4%.

Whooping Cough.

As whooping cough is not compulsorily notifiable, caution is necessary in drawing conclusions from the figures relating to cases and fatality-rates. During 1934, 2,437 cases came to the notice of the Health Department, a figure representing a case-rate of 2·81 per 1,000 of the population. Of these cases 172 proved fatal, corresponding to a death-rate of 19·9 per 100,000 of the population.

In Table XXIII are given the numbers of cases of whooping cough and deaths from this disease during 1934 and also during nine previous years.

TABLE XXIII.

WHOOPING COUGH—CASES AND DEATHS DURING 1934 AND
NINE PREVIOUS YEARS.

Years.	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934
Cases	2274	1971	1988	2313	1876	1147	2267	1596	987	2437
Deaths	227	188	125	269	198	75	189	148	93	172
Death rate per 100,000 of the population ...	27	22	15	31	23	8.5	22.1	17.2	10.7	19.9
Percentage of deaths to cases ...	9.9	9.5	6.3	11.6	10.5	5.5	8.3	9.3	9.4	7.0

Whooping cough is extremely fatal in the first two or three years of life and it is of the greatest importance that children of tender years be protected from possible sources of infection.

The considerable decline in the mortality from whooping cough during the last 85 years is shown in Table XXIV.

TABLE XXIV.

WHOOPING COUGH—AVERAGE DEATH-RATE PER 100,000 INHABITANTS
FROM 1850 TO 1934.

Year.	Average death-rate per 100,000.					
1850-59	103.6
1860-69	107.3
1870-79	86.8
1880-89	72.9
1890-99	56.3
1900-09	45.0
1910-19	32.6
1920-29	23.4
1930	8.5
1931	22.1
1932	17.2
1933	10.7
1934	19.9

Table XXV shows the deaths divided by ages and by the districts of residence. It will be noted that the deaths are mainly in very young children, and that high rates of mortality from whooping cough are still experienced in the central districts of the City.

TABLE XXV.

DEATHS FROM WHOOPING COUGH, 1934.

Districts.	At Ages						All ages.	Death Rates per 100,000 population.
	Under 1 yr.	1+	2+	3+	4+	5+		
1. Exchange	13	13	7	2	—	—	35	48·1
2. Abercromby	2	6	—	—	—	—	8	19·3
3. Everton	13	13	5	1	1	1	34	31·2
4. Kirkdale	6	5	5	1	—	—	17	26·6
5. Edge Hill	5	4	1	—	—	—	10	12·5
6. Toxteth	8	8	3	3	—	1	23	17·4
7. Walton	2	5	2	2	—	1	12	13·2
8. West Derby	5	4	1	—	1	—	11	10·4
9. Wavertree	2	3	1	1	1	1	9	8·7
10. Fazakerley	3	6	4	—	—	—	13	21·9
11. Woolton... ..	—	—	—	—	—	—	—	—
Central Districts (1 & 2)	15	19	7	2	—	—	43	37·6
Middle Districts (3 to 7)	34	35	16	7	1	3	96	20·2
Outer Districts (8 to 11)	10	13	6	1	2	1	33	11·9
Whole City	59	67	29	10	3	4	172	19·9

From Table XXVI it will be observed that there had been a considerable variation in the age distribution of the deaths in the sixty-four years under review. In 1871 there was a high proportion—45 per cent. of the total in the first year of life, but there were no deaths at ages 5 years and upwards. For the next 20 years there was a higher proportion in the third year of life, but subsequently the proportion has tended to be higher in the first two years of life; in 1932, for example, 90 per cent. of the deaths occurred in these two years.

TABLE XXVI.

DEATHS FROM WHOOPING COUGH AT THE VARIOUS AGES FOR THE YEARS
1871, 1881, 1891, 1901 and 1911, and 1921-1934.

	Number of Deaths at the various Age Periods.							Total Deaths all ages.	Proportion of Total Deaths expressed as a Percentage.						
	under 1 year.	1+	2+	3+	4+	5+	10+		under 1 year.	1+	2+	3+	4+	5+	10+
1871	234	163	110	11	1	0	0	519	45	32	21	2	0	0	0
1881	135	130	120	17	0	0	0	402	34	32	30	4	0	0	0
1891	163	123	129	23	0	0	0	438	37	28	30	5	0	0	0
1901	63	58	20	15	2	8	0	166	38	35	12	9	1	5	0
1911	88	96	28	20	9	5	0	246	36	39	11	8	4	2	0
1921	68	98	19	15	3	7	0	210	32	47	9	7	2	3	0
1922	79	65	23	8	2	5	0	182	43	36	13	4	1	3	0
1923	68	56	15	8	6	3	0	156	44	36	9	5	4	2	0
1924	69	70	16	7	5	2	0	169	41	41	10	4	3	1	0
1925	82	88	21	22	8	6	0	227	36	39	9	9	4	3	0
1926	77	68	23	9	7	4	0	188	41	36	12	5	4	2	0
1927	47	43	18	8	6	3	0	125	38	35	14	6	5	2	0
1928	108	105	37	11	8	0	0	269	40	39	14	4	3	0	0
1929	78	72	22	9	7	9	1	198	39	37	11	5	3	5	0.5
1930	36	25	11	2	0	1	0	75	48	33	15	3	0	1	0
Average, 1921/30 ...	71	69	20	11	5	4	0	180	40	38	12	5	3	2	0
1931	92	54	22	7	4	10	0	189	49	28	12	4	2	5	0
1932	73	61	7	5	1	1	0	148	49	41	5	3	1	1	0
1933	39	37	6	7	3	1	0	93	42	40	6	8	3	1	0
1934	59	67	29	10	3	4	0	172	34	39	17	6	2	2	0
Average, 1931/34 ...	65	55	16	7	3	4	0	150	44	37	10	5	2	2	0

Cerebro-Spinal Fever.

Sixty-nine cases of cerebro-spinal fever occurred during 1934, of which 37 (or 54 per cent.) proved fatal, making a death-rate of 4·3 per 100,000 of the population. Sixty-four (or 93 per cent.) of the cases were confirmed bacteriologically, and, in the remainder, there was clinical or post-mortem evidence of this disease.

In Table XXVII are given the numbers of cases of cerebro-spinal fever and of deaths from this disease during 1934 and also during nine previous years.

TABLE XXVII.

CEREBRO-SPINAL FEVER—CASES AND DEATHS DURING 1934 AND
NINE PREVIOUS YEARS.

	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934
Cases	24	16	25	21	23	21	57	76	64	69
Deaths... ..	15	12	21	16	21	17	47	47	45	37
Fatality-rate per 100 cases	62·5	75·0	84·0	76·2	91·3	81·0	82·4	61·8	70·3	53·6

Details of the results of treatment of cases of cerebro-spinal fever are given in the sectional report on hospital administration.

Encephalitis Lethargica.

During 1934, 30 cases of encephalitis lethargica were notified to the Health Department for the first time. Of these cases 7 were suffering from the disease in an acute stage and in 23 the illness had passed the acute stage and become chronic. There were certified 24 deaths from encephalitis lethargica, of which 4 occurred in the 7 acute cases mentioned (a fatality-rate of 57 per cent.) and 9 occurred in chronic cases. Of the remaining 11 deaths, nine were of cases reported in previous years, and two were of cases transferred to Liverpool by the Registrar General.

In Table XXVIII are given the numbers of cases of encephalitis lethargica and of deaths from this disease during 1934 and also during nine previous years.

TABLE XXVIII.

ENCEPHALITIS LETHARGICA—CASES AND DEATHS DURING 1934 and
NINE PREVIOUS YEARS.

	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934
CASES:										
Acute	108	114	69	54	28	27	35	4	4	7
Chronic								17	26	23
DEATHS in										
Acute cases	44	29	25	24	26	18	26	2	1	4
Chronic cases								13	20	9
Fatality-rate per 100 acute cases	—	—	—	—	—	—	—	50·0	25·0	57·1

Acute Anterior Poliomyelitis (Infantile Paralysis.)

During 1934, 9 cases of poliomyelitis were notified, of which 3, or 33 per cent., proved fatal. The cases were distributed through the year as follows: January 1 case, February 1 case, March 1 case, June 1 case, July 1 case, October 2 cases, November 1 case, December 1 case. The notification of cases of poliomyelitis is undoubtedly very incomplete owing to the difficulties in diagnosis in respect of cases which do not proceed to the paralytic stage.

In Table XXIX are given the numbers of cases of poliomyelitis and of deaths from this disease during 1934 and also during nine previous years.

TABLE XXIX.

ACUTE ANTERIOR POLIOMYELITIS—CASES AND DEATHS DURING 1934 AND
NINE PREVIOUS YEARS.

	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934
Cases	4	19	15	6	23	14	7	25	10	9
Deaths	1	5	2	5	10	6	4	11	3	3
Percentage of deaths to notified cases... ..	25·0	26·3	13·3	83·3	43·5	42·8	57·1	44·0	30·0	33·3

Influenza and other Respiratory Diseases.

The mortality from respiratory diseases varies greatly from year to year being influenced by weather conditions and also by the prevalence of such diseases as influenza, measles and whooping cough.

In Table XXX are given the average annual number of deaths due to respiratory diseases from 1871 to 1934, the percentage proportion of respiratory deaths to all deaths, the respiratory death-rate per 1,000 of the population and, finally, a comparison of the respiratory death-rate since 1880 with the average rate experienced in 1871-80 which has been called 100.

TABLE XXX.

DEATHS FROM RESPIRATORY DISEASES (INCLUDING INFLUENZA).

	Yearly average number of deaths.	Percentage proportion to all deaths.	Respiratory death-rate per 1,000 population.	Death-rates compared with the 1871-80 death-rate called 100.
1871-80 ...	2,976	20·2	5·7	100
1881-90 ...	3,251	23·2	5·9	104
1891-1900 ...	3,582	24·6	5·9	104
1901-10 ...	3,299	21·8	4·5	79
1911-20 ...	3,648	27·3	4·7	83
1921-30 ...	2,904	24·7	3·5	61·4
1931... ...	2,397	19·6	2·8	49·1
1932... ...	1,905	16·7	2·2	38·6
1933... ...	2,466	19·8	2·8	49·1
1934... ...	1,792	15·8	2·1	36·8

There has been a striking decline of the respiratory death-rate to a figure which is only 36·8 per cent. of the rate which prevailed during the years 1871-80.

In Table XXXI are shown the number of deaths from all causes, the number of deaths from influenza, pneumonia and bronchitis, and the total number of respiratory deaths which occurred week by week during 1934. These figures do not include the deaths of Liverpool residents which occurred outside the city.

TABLE XXXI

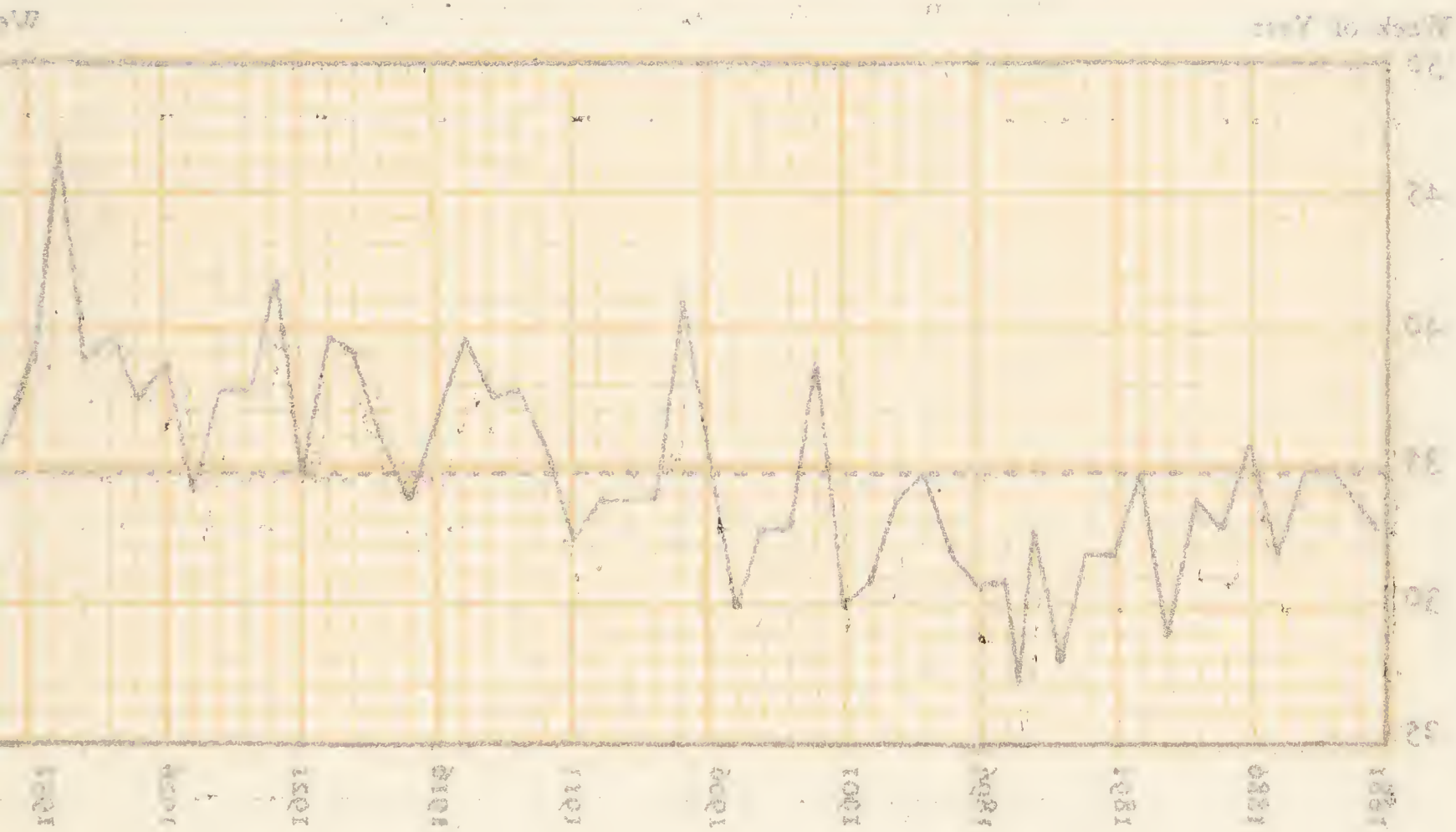
WEEKLY DEATHS FROM RESPIRATORY DISEASES (INCLUDING INFLUENZA).

1934. Week ended.	Total Deaths (all causes).	Weekly Death- rate per 1,000 of Estimated Population.	NUMBER OF DEATHS FROM				Percentage proportion of Res- piratory Deaths to Total Deaths.
			Influenza.	Pneumonia and Broncho- pneumonia.	Bronchitis.	Total Res- piratory Deaths.	
Jan. 6	271	16·3	2	44	19	66	24·4
„ 13	245	14·8	1	28	14	45	18·4
„ 20	246	14·9	6	24	9	33	13·4
„ 27	228	13·7	2	28	7	37	16·2
Feb. 3	269	16·2	1	41	16	61	22·7
„ 10	265	16·0	4	32	13	49	18·5
„ 17	259	15·6	3	35	8	46	17·8
„ 24	242	14·6	3	31	7	38	15·7
Mar. 3	269	16·2	6	19	13	41	15·2
„ 10	270	16·3	4	37	6	46	17·0
„ 17	242	14·6	2	33	11	45	18·6
„ 24	270	16·3	7	33	14	50	18·5
„ 31	281	16·9	3	44	14	62	22·1
April 7	278	16·7	5	43	5	50	18·0
„ 14	300	18·1	10	39	11	51	17·0
„ 21	235	14·2	8	40	12	55	23·4
„ 28	241	14·5	4	27	7	39	16·2
May 5	229	13·8	2	19	7	27	11·8
„ 12	249	15·0	2	24	7	36	14·0
„ 19	229	13·8	2	20	3	23	10·0
„ 26	212	12·8	—	15	10	28	13·2
June 2	198	11·9	3	23	6	29	14·6
„ 9	170	10·2	4	19	2	22	13·0
„ 16	182	11·0	—	11	5	22	12·1
„ 23	166	10·0	1	14	2	18	10·8

1934. Week ended.	Total Deaths (all causes).	Weekly Death- rate per 1,000 of Estimated Population.	NUMBER OF DEATHS FROM				Percentage proportion of Res- piratory Deaths to Total Deaths.
			Influenza.	Pneumonia and Broncho- pneumonia.	Bronchitis.	Total Res- piratory Deaths.	
June 30	168	10·1	1	16	4	20	12·0
July 7	175	10·5	—	21	4	26	15·0
„ 14	182	11·0	—	16	2	18	9·9
„ 21	159	9·6	2	11	1	13	8·2
„ 28	170	10·3	1	15	4	20	11·8
Aug. 4	164	9·9	—	12	1	14	8·5
„ 11	165	9·9	—	9	4	13	7·9
„ 18	162	9·8	—	13	4	19	11·7
„ 25	165	9·9	1	15	2	17	10·3
Sept. 1	165	9·9	3	12	8	22	13·3
„ 8	159	9·6	1	13	4	20	12·6
„ 15	174	10·5	—	15	5	22	12·6
„ 22	153	9·2	1	14	5	20	13·0
„ 29	184	11·1	—	11	2	15	8·2
Oct. 6	182	11·0	1	13	8	24	13·2
„ 13	148	8·9	—	13	1	17	11·5
„ 20	183	11·0	—	12	2	15	8·2
„ 27	164	9·9	2	15	4	20	12·2
Nov. 3	164	9·9	1	18	6	25	15·2
„ 10	210	12·6	—	24	7	35	16·6
„ 17	225	13·6	2	24	6	32	14·2
„ 24	238	14·3	1	26	4	31	13·1
Dec. 1	190	11·4	3	25	4	30	13·2
„ 8	204	12·3	2	16	11	31	15·2
„ 15	209	12·6	3	33	3	37	17·7
„ 22	193	11·6	1	15	5	21	10·9
„ 29	182	10·9	1	27	11	39	21·4
„ 31	71	—	1	10	4	17	24·0

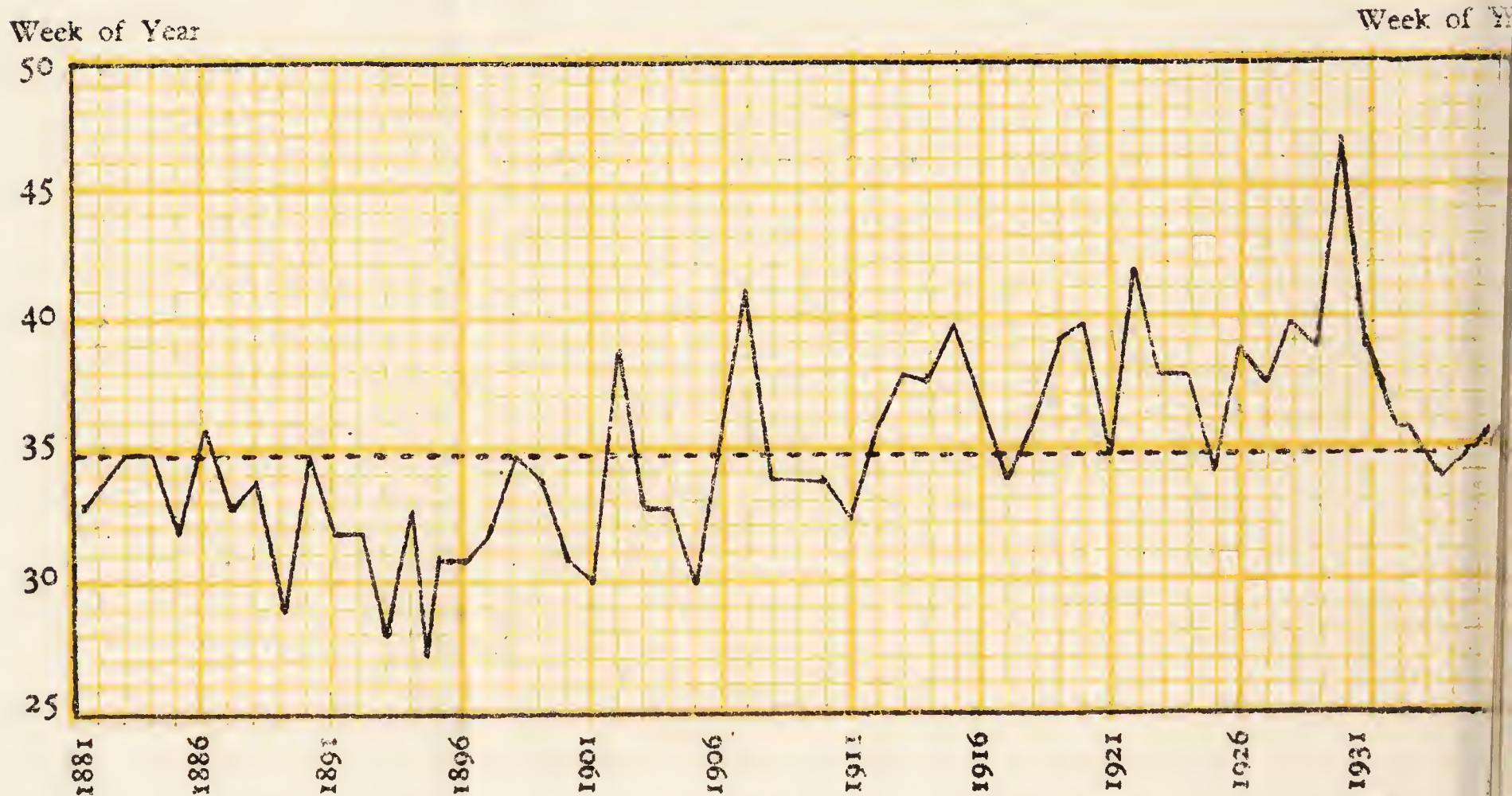
CITY OF LIVERPOOL

Graph showing for each of the 54 years 1881-1934 the week in which the maximum number of deaths from Diarrhoeal Disease was recorded. The graph shows the progressive retardation of the height of the seasonal wave, a retardation which has occurred concurrently with the great decline and virtual extinction of Diarrhoea, as a cause of death.



CITY OF LIVERPOOL.

Graph showing for each of the 54 years 1881-1934 the week in which the maximum number of deaths from Diarrhoeal Diseases was recorded. This Graph shows the progressive retardation of the height of the seasonal wave, a retardation which has occurred concurrently with the great decline and virtual extinction of Diarrhoea, as a cause of death.



Dysentery.

During 1934, seven cases of dysentery were reported in the City, of which 4 were due to organisms of the Flexner type and 3 were due to organisms of the Sonne type. In addition 2 cases of amœbic dysentery were brought into the Port of Liverpool from overseas.

Diarrhœa and Enteritis.

During 1934, there were 183 deaths recorded from diarrhœa and enteritis at all ages, of which number 154 were in children under two years of age and 135 were in children under one year old. The deaths of 154 children under two years of age represent a mortality-rate of 4·4 per 1,000 births taking place in the city during the last two years. This figure is the lowest on record, and represents a fall of 169 deaths compared with the previous year. Enquiries into these fatal cases have been carried out by the Health Visitors, and an account of their investigations will be found on page 122.

Formerly many deaths occurred from an acute infective disease or group of diseases of which the predominating symptoms were an acute onset with diarrhœa and vomiting, often preceded by convulsions, and terminating rapidly in children under two years of age. This disease assumed the form of an annually recurring summer epidemic, which had a well-marked maximum in August or September. This influence is still operative, though to a much lesser degree. (See chart facing this page.)

The importance of flies as carriers of this infection is referred to in a later paragraph on page 81, and a description of the steps taken to deal with the breeding places of flies occurs on page 186.

The mortality in the several districts of the city is shown in Table XXXII.

TABLE XXXII.

DIARRHOEA AND ENTERITIS.—MORTALITY-RATE IN CHILDREN UNDER
2 YEARS OF AGE.

	Registered births 1933-34.	Number of deaths in 1934.	Death-rate per 1,000 births registered during 1933 and 1934.
Exchange	4,384	46	10·5
Abercromby	1,608	8	5·0
Everton	4,896	21	4·3
Kirkdale	2,845	16	5·6
Edge Hill	3,480	13	3·7
Toxteth	5,486	20	3·6
Walton	2,364	5	2·1
West Derby	3,486	10	2·9
Wavertree	2,972	8	2·7
Fazakerley	2,813	7	2·5
Woolton	188	—	—
	34,522	154	4·4

NOTE.—All deaths occurring in public institutions have been transferred to the districts from which the patients came.

A comparison of the mortality-rate during 1934 in children under 2 years of age with the mortality-rates during the previous nine years is given in Table XXXIII.

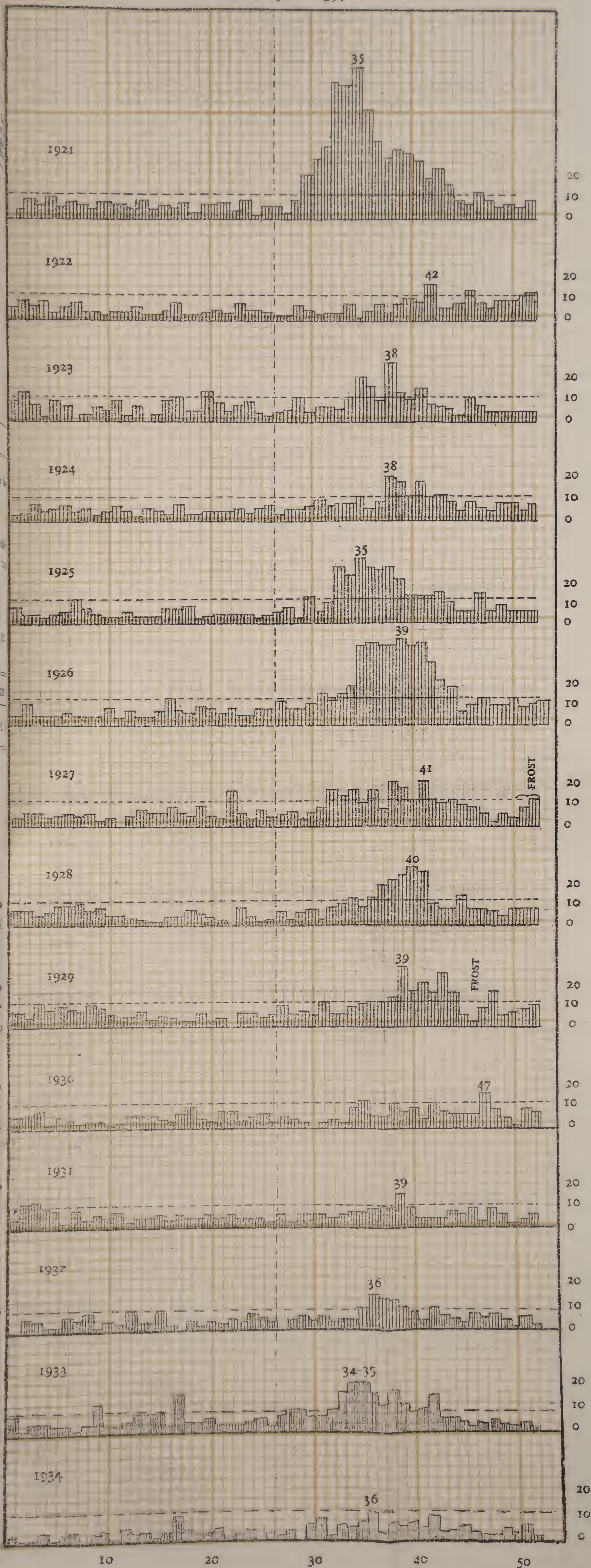
TABLE XXXIII.

DIARRHOEA AND ENTERITIS.—MORTALITY RATES DURING 1934 AND
NINE PREVIOUS YEARS.

Mortality-rate per 1,000 births in year of record and preceding year...	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934
...	7·7	10·3	13·3	9·9	9·9	10·3	7·2	7·2	9·2	4·4

CITY OF LIVERPOOL.

DEATHS FROM DIARRHŒA & ENTERITIS (UNDER 2 YEARS OF AGE) DURING THE
YEARS 1921—1934



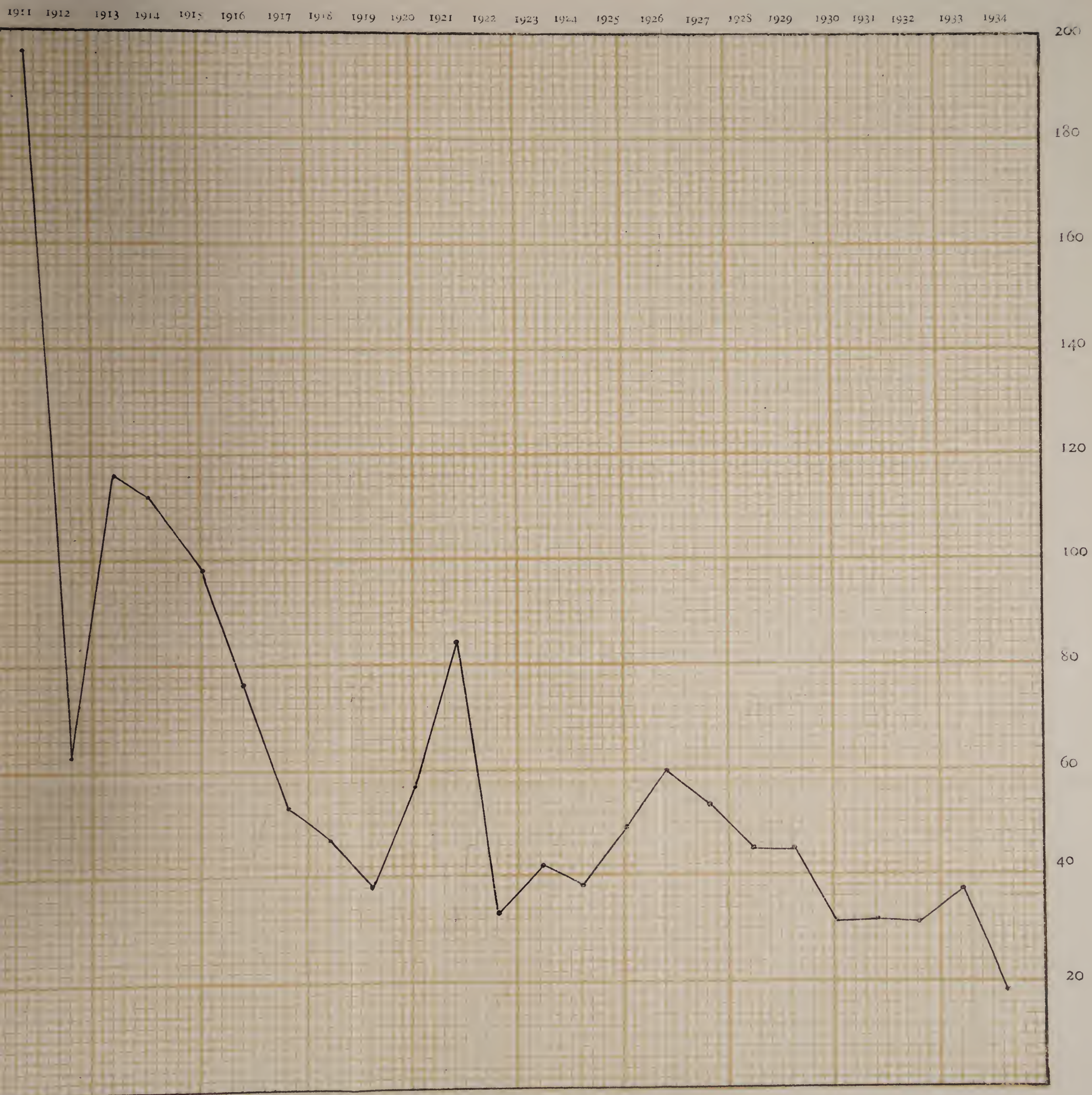
UNITED STATES GOVERNMENT

THE UNIVERSITY OF CHICAGO

1921 2053

CITY OF LIVERPOOL.

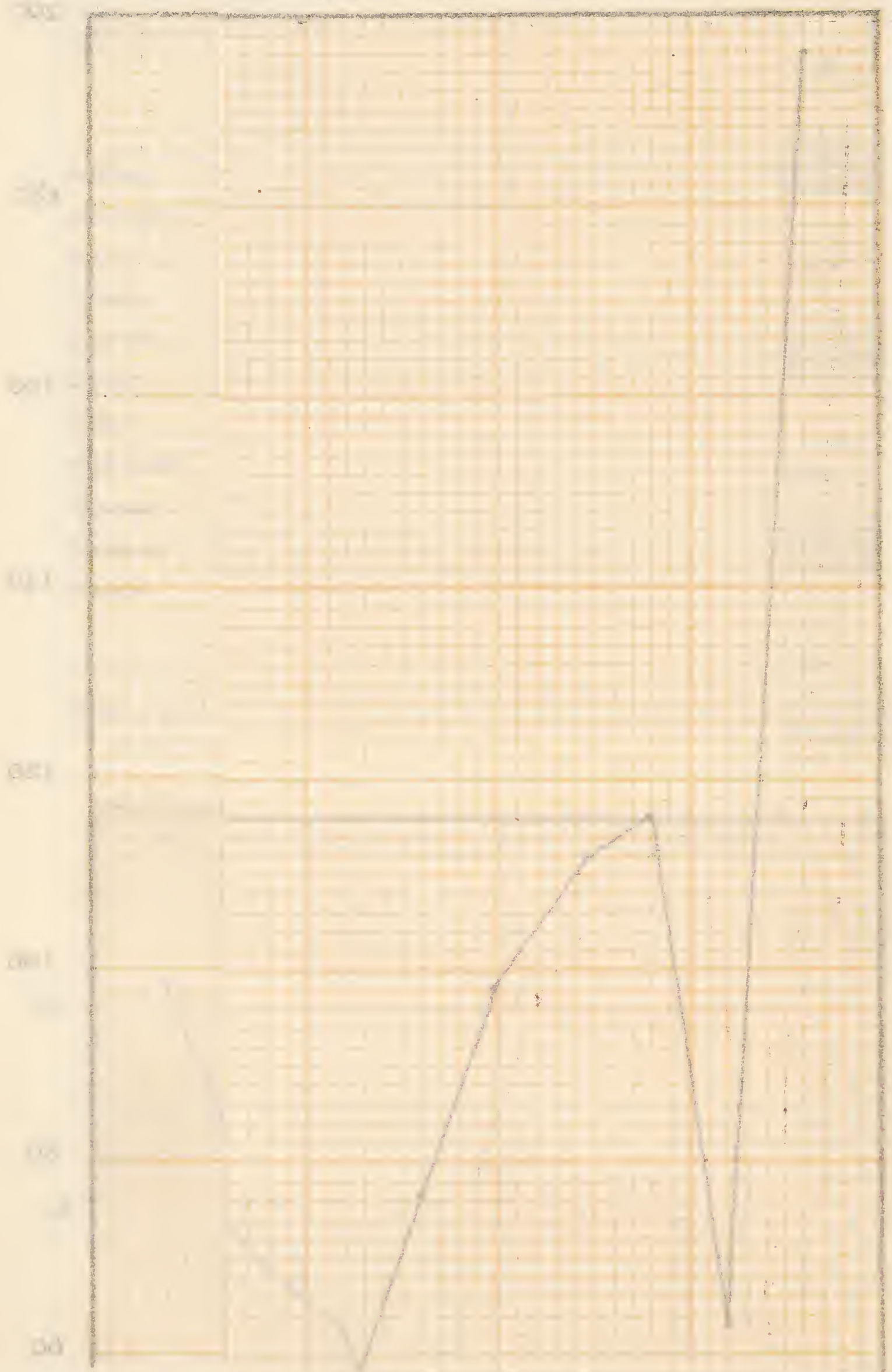
DIARRHOEA AND ENTERITIS (UNDER 2 YEARS OF AGE) DEATH RATES PER 100,000 POPULATION, 1911-1934.



CITY OF LIVERPOOL

REPORT ON THE PROGRESS OF THE CITY OF LIVERPOOL

1891



Of the 154 deaths under 2 years of age, 101 took place in public institutions as shown in Table XXXIV.

TABLE XXXIV.

DEATHS FROM DIARRHOEA AND ENTERITIS UNDER TWO YEARS OF AGE
IN INSTITUTIONS DURING 1934.

Alder Hey Hospital	...	...	...	...	...	57
David Lewis Northern Hospital	...	...	...	...	...	12
Royal Liverpool Children's Hospital	...	...	...	...	...	11
Mill Road Infirmary	...	...	...	...	...	8
Belmont Road Institution	...	...	...	...	...	4
Royal Southern Hospital	...	...	...	...	...	3
Walton Hospital	...	...	...	...	...	3
Smithdown Road Hospital	...	...	...	...	...	1
Garston Hospital	...	...	...	...	...	1
House of Providence	...	...	...	...	...	1
						<hr/> 101 <hr/>

The reduction in the number of deaths at Alder Hey Hospital is most noticeable; in the year 1929 there were 218 deaths from diarrhoea in this hospital.

In Table XXXV are given details relating to the districts in which deaths from diarrhoea and enteritis took place, the ages at death and the distribution of the deaths over the four quarters of the year.

TABLE XXXV.

DEATHS FROM DIARRHOEA AND ENTERITIS (UNDER TWO YEARS).

DISTRICTS.	QUARTERS.								YEAR 1934.		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M	F.	M.	F.	Total
Exchange	2	2	10	4	9	10	9	...	30	16	46
Abercromby	1	...	1	1	...	3	1	1	3	5	8
Everton	1	1	3	2	3	2	4	5	11	10	21
Kirkdale	3	...	2	...	2	4	...	5	7	9	16
Edge Hill	2	1	2	...	...	1	3	4	7	6	13
Toxteth	3	3	1	3	4	2	2	2	10	10	20
Walton	2	...	...	1	...	1	...	1	2	3	5
West Derby .....	...	...	1	...	5	2	2	...	8	2	10
Wavertree	1	...	...	...	4	1	1	1	6	2	8
Fazakerley .....	...	1	...	1	1	2	2	...	3	4	7
Woolton .....	...	...	...	...	...	...	...	...	...	...	...
City	15	8	20	12	28	28	24	19	87	67	154

AGES AT DEATH.

Under 1 year	...	...	...	...	...	...	135
1 to 2 years	...	...	...	...	...	...	19
TOTAL	...	...	...	...	...	...	<u>154</u>

DEATHS FROM DIARRHOEA AND ENTERITIS SEPARATELY.

	QUARTERS.				YEAR.
	1ST.	2ND.	3RD.	4TH.	
Diarrhoea	1	9	11	1	22
Enteritis	22	23	45	42	132
Total ...	23	32	56	43	154

N.B.—Deaths in public institutions are transferred to the districts from which the patients came.

The experience of many years points strongly to the importance of flies as carriers of infection. Collections of stable manure form the most important breeding places for these insects. Regular visits of inspection are paid to stables, and the occupiers are told of the desirability of regular weekly removals of manure. The following notice has been issued to the owners of stables in recent years with the object of securing frequent removal of manure :—

REMOVAL OF MANURE FROM STABLES.

The Health Committee is very desirous that Manure from Stables should be removed with as little delay as possible, and with this object in view, arrangements have been made with the City Engineer for its speedy removal.

On application to the City Engineer, Municipal Offices, Dale Street, Manure will be removed from stable yards as often as required, free of charge.

Public Health (Infectious Diseases) Regulations, 1927.

The following statement shows the number of notifications received under the regulations and the number of deaths during 1933 and 1934 :—

	1933.		1934.	
	Cases.	Deaths.	Cases.	Deaths.
Acute Pneumonia	3,106	1,391	2,428	1,204
Malaria	26	2	18	2
Dysentery	3	2	7	2
	3,135	1,395	2,453	1,208

Enquiries were made into all these cases; 783 cases of influenzal pneumonia were visited and 16 received assistance from nurses appointed for the purpose, 47 revisits being made.

Infectious Diseases in Schools.

There was a slight increase in the number of cases of infectious diseases during the year, 13,624 cases being reported among children of school age, as against 8,750, 9,876, 10,128, 11,800, and 13,146, for the years 1929 to 1933, respectively.

Compared with last year, there was a moderate increase in the number of cases of measles and whooping cough, and a slight increase in the number of cases of mumps, while there was a great reduction in the number of cases of scarlet fever, 2,124 cases being reported, compared with 3,214 in 1933.

The number of cases of diphtheria remained fairly constant, 1,691 cases occurring in school children during 1934, compared with 1,670 in 1933.

The arrangements introduced in 1932 for the inoculation of children attending the Infants' Departments of Public Elementary Schools were continued.

The following schools were visited and inoculation carried out:—

Ackers Hall Avenue Council.	Lawrence Road Council.
Anfield Road Council.	Leamington Road.
Arnot Street Council.	Lister Drive Council.
Banks Road Council.	Matthew Arnold Council.
Barlows Lane Council.	Monksdown Road Council.
Birchfield Road Council.	Mossfits Lane Council.
Bishop Goss, R.C.	Much Woolton, C.E.
Boaler Street Council.	Northcote Road Council.
Broad Green Road Council.	North Way Council.
Broad Square Council.	Ranworth Square Council.
Butler Street Council.	Roscoe Council, Ballantyne Road.
Christ Church, Everton.	Roscoe Council, Garsfield Road.
Corinthian Avenue Council.	Sefton Park Council.
Devedale Road Council.	St. Alban's, R.C.
Florence Melly Council.	St. Anne's, R.C.
Fermosa Drive Council.	St. Athanasius', C.E.
Gilmour Council, Danefield Road.	St. Bernard's, R.C.
Gilmour Council, Duncombe Road.	St. Cecilia's, R.C.
Holy Trinity, R.C.	St. Clement's, C.E.
Knotty Ash, C.E.	St. Cleopas', C.E.

St. Francis de Sales', R.C.

St. Gerard's, R.C.

St. John's, R.C.

St. Jude's, C.E.

St. Lawrence, C.E.

St. Malachy's, R.C.

St. Mary's, C.E., Edge Hill.

St. Michael's Council.

St. Michael's, R.C.

St. Oswald's,, R.C.

St. Paul's, C.E., Toxteth.

St. Saviour's, C.E., Canning Street.

St. Sebastian's, R.C.

St. Silas', C.E.

Sudley Road Council.

Townsend Lane Council.

Vine Street Methodist.

Warbreck Council, Longmoor Lane.

Warbreck Council, Rice Lane.

Wellesbourne Road Council.

The response varied considerably from one school to another, but taking the schools as a whole, approximately 27 per cent. of the infants attending were inoculated.

The total number of school children inoculated on school premises was 4,917. In addition, several hundred children of school age were inoculated at the two immunisation clinics held at the Carnegie Welfare Centre and the Norris Green Clinic, respectively. There were no untoward difficulties, and there was practically no interference with school attendance.

No schools or departments were wholly or partially closed during the year on account of infectious disease.

In Table XXXVI and XXXVII are shewn the number of cases of the common infectious diseases, with the ages of the children affected and the monthly distribution of the cases.

TABLE XXXVI.

SCHOOL CASES OF INFECTIOUS DISEASE OCCURRING DURING 1934.

AGE DISTRIBUTION.

DISEASE.	under 5	under 6	under 7	Total under 7	under 8	under 9	under 10	under 11	under 12	under 13	under 14	Over 14	Total above 7	Grand Total.
Diphtheria ...	45	256	293	594	223	222	182	135	132	98	85	20	1,097	1,691
Scarlet Fever ...	57	362	363	782	329	244	190	170	138	122	94	55	1,342	2,124
Measles ...	217	1,888	1,301	3,406	631	398	350	238	177	139	109	56	2,098	5,504
Whooping Cough ...	46	619	432	1,097	161	46	22	11	16	13	5	3	277	1,374
Mumps ...	29	225	259	513	194	113	60	49	28	27	16	3	490	1,003
Chickenpox ...	75	487	548	1,110	333	172	114	80	44	29	36	10	818	1,928
TOTALS ..	469	3,837	3,196	7,502	1,871	1,195	918	683	535	428	345	147	6,122	13,624

TABLE XXXVII.

SCHOOL CASES OF INFECTIOUS DISEASE DURING 1934.

MONTHLY DISTRIBUTION.

DISEASE.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Diphtheria ...	157	168	107	100	157	158	111	110	119	162	130	212	1,691
Scarlet Fever ...	349	241	243	193	198	169	122	102	132	144	125	106	2,124
Measles ...	525	1,061	1,448	912	867	528	113	16	32	11	10	11	5,504
Whooping Cough	186	269	261	188	191	106	9	15	27	41	62	19	1,374
Mumps ...	93	92	158	78	96	135	26	28	5	85	85	122	1,003
Chickenpox ...	286	271	180	137	169	281	95	22	82	114	155	136	1,928
TOTALS ...	1,596	2,072	2,397	1,608	1,678	1,377	476	293	397	557	567	606	13,624

Co-operation between the Health and Education Departments.

Information is sent both to the Director of Education and also to the head teachers of the schools concerned when it is found that children from infected houses are attending school. During 1934 26,564 children who had been exposed to infection were reported in this way.

During the year, 2,803 visits to schools were paid by sanitary inspectors and 17 defects were found and subsequently remedied.

References from the Education Department to the Health Department concerning the occurrence of infectious or suspected infectious illness totalled 7,443 during the year.

MATERNITY AND
CHILD WELFARE.

MATERNITY and CHILD WELFARE.

Summary of Vital Statistics for 1934 :—

Live births	...	17,593	Live birth rate	...	20·31
Still-births	...	685	Still-birth rate	...	0·79
		Total births	...	18278	

Infant Mortality rate	...	...	...	...	81
Neo-natal Mortality rate	...	...	...	...	32
Maternal Mortality rate	...	...	...	...	2·8

The maternity and child welfare work in this city is very comprehensive. The whole scheme is designed to reduce maternal and infantile mortality and morbidity, and entails not only the harmonious and co-ordinated action of all officially engaged in it, but also active co-operation with all voluntary agencies, medical and social, whose efforts are directed towards the improvement and maintenance of public health.

The maternity and child welfare scheme operative in this city is given in outline in the following pages.

THE MIDWIFERY DEPARTMENT.

In this are included :—

- i. The quarterly routine visiting of midwives in their own homes for inspection of registers, records and equipment, under the Central Midwives' Board Rules.
- ii. The investigation of all cases of :—
 - (a) Medical assistance sought by midwives (Central Midwives' Board Rules).

- (b) Puerperal Pyrexia and Puerperal Fever, under the Public Health (Notification of Puerperal Fever and Puerperal Pyrexia) Regulations, 1926 and 1928.
 - (c) Claims for fees in indigent cases, under section 14 of the Midwives Act, 1918.
 - (d) Claims from midwives suspended so as to prevent the spread of infection (Midwives and Maternity Homes Act, 1926).
 - (e) Maternal deaths for the special report to the Ministry of Health.
 - (f) Ophthalmia Neonatorum, and the giving of treatment where required under Ophthalmia Neonatorum Regulations, 1926.
 - (g) Pemphigus.
- iii. The visiting of Lying-in Homes registered under the Liverpool Corporation Act, 1921, and Midwives and Maternity Homes Act, 1926, also visiting of Nursing Homes under Nursing Homes Registration Act, 1927.
 - iv. Any other enquiries, investigations or advice relating to the practice of midwives in the city.

During the year, 305 midwives gave the required notice under section 10 of the Midwives Act, 1902, of their intention to practise midwifery in this city.

Notification of Live and Still-Births.

A total of 9,633 births (9,364 live births and 269 still-births) were attended by midwives during the year, which represented 51.85 per cent. of the total (live and still) births notified in the city. The total number of births which took place in institutions during the year was 7,625 (7,248 live births, 377 still-births).

Statement of Notifications of Live and Still Births received during the Years 1933 and 1934.

Notifications Received from	1933.				1934.		
	Live Births.	Still Births.	Total.	Percentage of births notified.	Live Births.	Still Births.	Total.
Certified Midwives	7,916	247	8,163	45.9	7,722	235	7,957
Medical Attendants	1,235		1,283	7.2	1,259	61	1,320
Transferred Institutions	4,131	231	4,362	24.5	4,717	242	4,959
Liverpool Maternity Hospital.....	1,644	108	1,752	9.9	1,783	109	1,892
“Rest Home,” Chatham Street	241	4	245	1.4	266	7	273
District Homes	1,498	35	1,533	8.6	1,642	34	1,676
Royal Infirmary	399	29	428	2.4	451	18	469
Other Institutions	21	—	21	0.1	31	1	32
Parents	4	—	4	0.02	1	—	1
	17,089	702	17,791	100.0	17,872	707	18,579
							100.0

The number of still-births notified during the year was 707*, of which number 269 were notified by midwives, being at the rate of 2·8 per cent. of the births attended by them. Enquiries were made into the circumstances of all still-births, and the number of visits paid was 671.

Routine Visits to Midwives.

Rule 25 laid down by the Central Midwives Board states:—

“ The Local Supervising Authority shall make arrangements to
 “ secure a proper inspection of the register of cases, bag of
 “ appliances, etc., of every midwife practising in the district of
 “ such authority, and when thought necessary, an inspection of
 “ her place of residence, and an investigation of her mode of
 “ practice.

During the year, 1,711 visits were paid to the homes of practising midwives for the purpose of inspection, and for special enquiries relating to their work.

Medical Assistance.

Under the rules issued by the Central Midwives Board, a midwife must advise that medical assistance shall be called in where there is any abnormal circumstance connected with the confinement.

The following table gives the details of the complications for which medical aid was advised by midwives, the total number of medical records being 2,961.

Mother—

Obstructed labour, uterine inertia or requiring instrumental assistance	...	...	...	...	...	...	...	494
Ruptured perinæum	...	...	...	...	...	...	...	526
Ante-partum hæmorrhage	...	...	...	...	...	...	...	259
Pyrexia	...	...	...	...	...	...	...	136
Ante-natal treatment	...	...	...	...	...	...	...	128
Abortion or miscarriage	...	...	...	...	...	...	...	145
Post-partum hæmorrhage	...	...	...	...	...	...	...	92
Carried forward								1,780

* The total number of still-births registered under the Births and Deaths Registration Act, 1926, during the year 1934 was 685 (see p. 8).

					Brought forward	...	1,780
Retained placenta or membranes	...	...	...	...			57
Varicose veins	...	...	...	...	...	...	37
Premature birth	...	...	...	...	...	...	6
Multiple births	...	...	...	...	...	...	12
Eclampsia	...	...	...	...	...	...	7
Deformed pelvis	...	...	...	...	...	...	5
Influenza	...	...	...	...	...	...	3
Abnormal presentation:							
Breech presentation	...	...	...	...	...	...	51
Occipito-posterior position	...	...	...	...	...	...	23
Cord presentation	...	...	...	...	...	...	5
Foot presentation	...	...	...	...	...	...	8
Brow or face presentation	...	...	...	...	...	...	20
Transverse presentation	...	...	...	...	...	...	8
Placenta prævia	...	...	...	...	...	...	6
Various	...	...	...	...	...	...	208
							<hr/> 2,236

Child

Feebleness and prematurity	...	...	...	...	...	...	212
Ophthalmia	...	...	...	...	...	...	260
Skin eruption	...	...	...	...	...	...	54
Malformations	...	...	...	...	...	...	49
Convulsions	...	...	...	...	...	...	14
Injury at birth	...	...	...	...	...	...	2
Other conditions in child	...	...	...	...	...	...	134
							<hr/> 725
Total							<hr/> 2,961 <hr/>

Claims for Fees in Emergency Cases.

Payment may be made by Local Supervising Authorities to medical practitioners called in by midwives under section 14 of the Midwives Act, 1918. During the year 2,628 visits were paid in regard to these accounts. Applicants are assessed on a scale of income, due considera-

tion being given to cases where any special expenditure has been incurred in the interests of the mother or child. The whole or part of the doctor's fee is paid in almost all cases by the Maternity and Child Welfare Sub-Committee.

During the year the total number of occasions on which the services of a consultant obstetrician in connection with cases of puerperal fever, puerperal pyrexia or complications during pregnancy were requisitioned, was 20. The ability of the patient to pay was investigated, and in 11 of these cases, the whole fee was defrayed by the Maternity and Child Welfare Sub-Committee.

During the year, 716 claims from midwives for necessitous midwifery were investigated, 692 of which were paid.

Claims from Midwives who were suspended from Practice.

Section 2 (1) Midwives and Maternity Homes Act, 1926, gives a midwife who is suspended from practice (not herself being in default) in order to prevent the spread of infection, the right to recover reasonable compensation from the Local Authority. Two claims under this section were paid as follows during 1934:—

Husband of patient suffering from erysipelas	...	...	1
Case of dermatitis	...	...	1

Public Health (Notification of Puerperal Fever and Puerperal Pyrexia) Regulations, 1926 and 1928.

These regulations require the notification to the Medical Officer of Health of any febrile condition occurring in a woman within 21 days of childbirth or miscarriage, in which a temperature of 100·4° Fahrenheit or more has been sustained during a period of 24 hours or has recurred during that period. Puerperal fever was, and still continues to be, notifiable under the Infectious Disease (Notification) Act, 1889, to which the above regulations are supplementary.

With the object of securing adequate treatment in the early stages of this somewhat ill-defined condition, the prescribed notification form provides that the medical attendant can ask for (1) a second opinion on the case, (2) certain bacteriological examinations, (3) admission of the patient to hospital or (4) the provision of trained nurses; or, alternatively, state that facilities for all necessary treatment exist.

The services of consultant obstetricians have been provided by the Maternity and Child Welfare Sub-Committee, under the Public Health (Notification of Puerperal Fever and Puerperal Pyrexia) Regulations, 1926 and 1928, and Memo. 156/M.C.W. Hospital accommodation has for some years been provided, in Walton and Smithdown Road Hospitals, and Mill Road Infirmary. Arrangements have also been made by which the services of the nurses of the Queen Victoria District Nursing Association are available.

Puerperal Pyrexia.

The number of cases of puerperal pyrexia notified during the year was 309. Of these 18 were found to be puerperal septicæmia, and, therefore, fall within the definition of puerperal fever, one was a case of influenza, 5 were cases of pneumonia, one of rheumatism, three of bronchitis, one infarct of lung, one chest trouble, and one septic polypus in right ear. The remaining 278 were cases of pyrexia of puerperal origin of a lesser degree than is legally termed puerperal fever. Of these cases 246 were admitted to or occurred in hospitals, and 56 occurred in the practice of midwives. In five cases a consultant obstetrician was called in, and in 17 cases nurses were provided. The number of puerperal pyrexia cases notified from institutions where the patient resided outside the city was 67.

Puerperal Fever.

The number of cases of puerperal fever notified to the medical officer of health during the year was 43, of which 25 proved fatal. This gives a puerperal fever death rate of 1·4 per 1,000 total (live and still) births registered in the city.

Thirty-seven cases of puerperal fever were admitted to or occurred in hospital, viz.:—4 Mill Road Infirmary, 26 Walton Hospital, 3 Smithdown Road Hospital, 1 Royal Infirmary, 1 Fazakerley Hospital, 1 Stanley Hospital, 1 Women's Hospital. After the usual enquiries were made, 19 cases (of which 11 died) were found to have occurred in the practice of midwives. In 4 cases a consultant was called in, and in 9 cases nurses were provided.

Maternal Mortality.

Table showing the number of Live and Still Births registered in the City, together with Maternal Deaths and Maternal Death Rates, for the years 1921 to 1934.

BIRTHS REGISTERED.				MATERNAL MORTALITY.					
				Puerperal Fever.		Other Puerperal Causes.		Total.	
Year.	Live Births.	* Still Births.	Total Births.	Deaths.	Rate per 1,000 total births.	Deaths.	Rate per 1,000 total births.	Deaths.	Rate per 1,000 total (live and still) births.
1921	21,904	764	22,668	34	1.50	46	2.03	80	3.53
1922	21,467	740	22,207	33	1.49	28	1.26	61	2.75
1923	20,695	736	21,431	16	0.75	47	2.19	63	2.94
1924	20,559	735	21,294	22	1.03	39	1.83	61	2.86
1925	19,592	716	20,308	21	1.03	36	1.77	57	2.80
1926	19,792	665	20,457	28	1.37	43	2.10	71	3.47
1927	19,020	735	19,755	25	1.26	58	2.94	83	4.20
1928	19,120	816	19,936	19	0.95	45	2.26	64	3.21
1929	18,888	753	19,641	26	1.32	40	2.04	66	3.36
1930	18,881	774	19,655	16	0.81	59	3.00	75	3.81
1931	18,626	722	19,348	20	1.03	35	1.81	55	2.84
1932	18,149	827	18,976	16	0.84	35	1.85	51	2.69
1933	16,929	680	17,609	29	1.65	31	1.76	60	3.41
1934	17,593	685	18,278	25	1.37	26	1.42	51	2.79

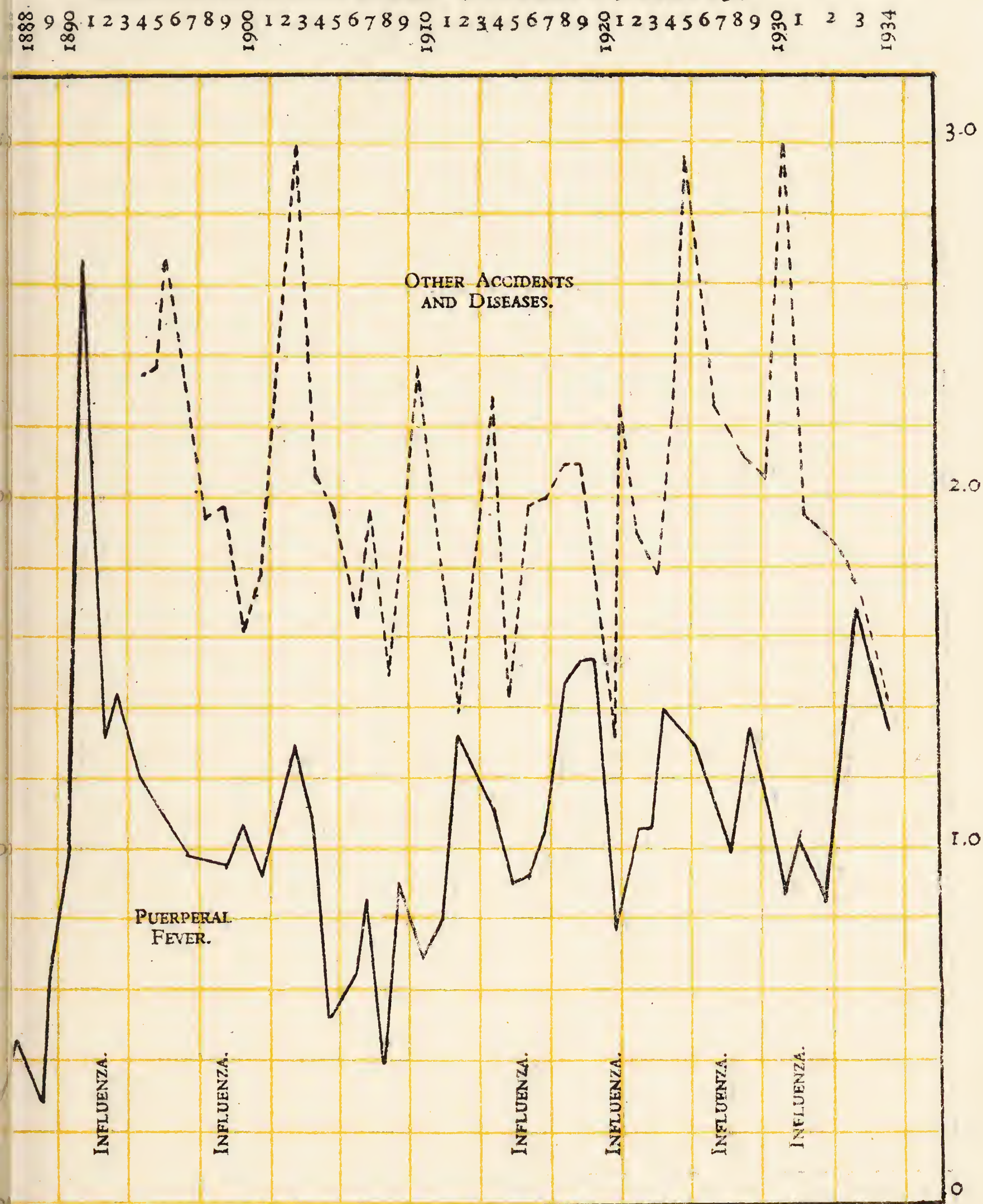
Ante-Natal Supervision.

Satisfactory ante-natal care is taken to mean that the patient has had adequate medical examination and specialist's opinion during pregnancy, and that she has been under expert supervision during

* Still-births are registered under the Births and Deaths Registration Act, 1926 which came into operation in July, 1927, the figures given prior to 1928 are those of notified still-births.

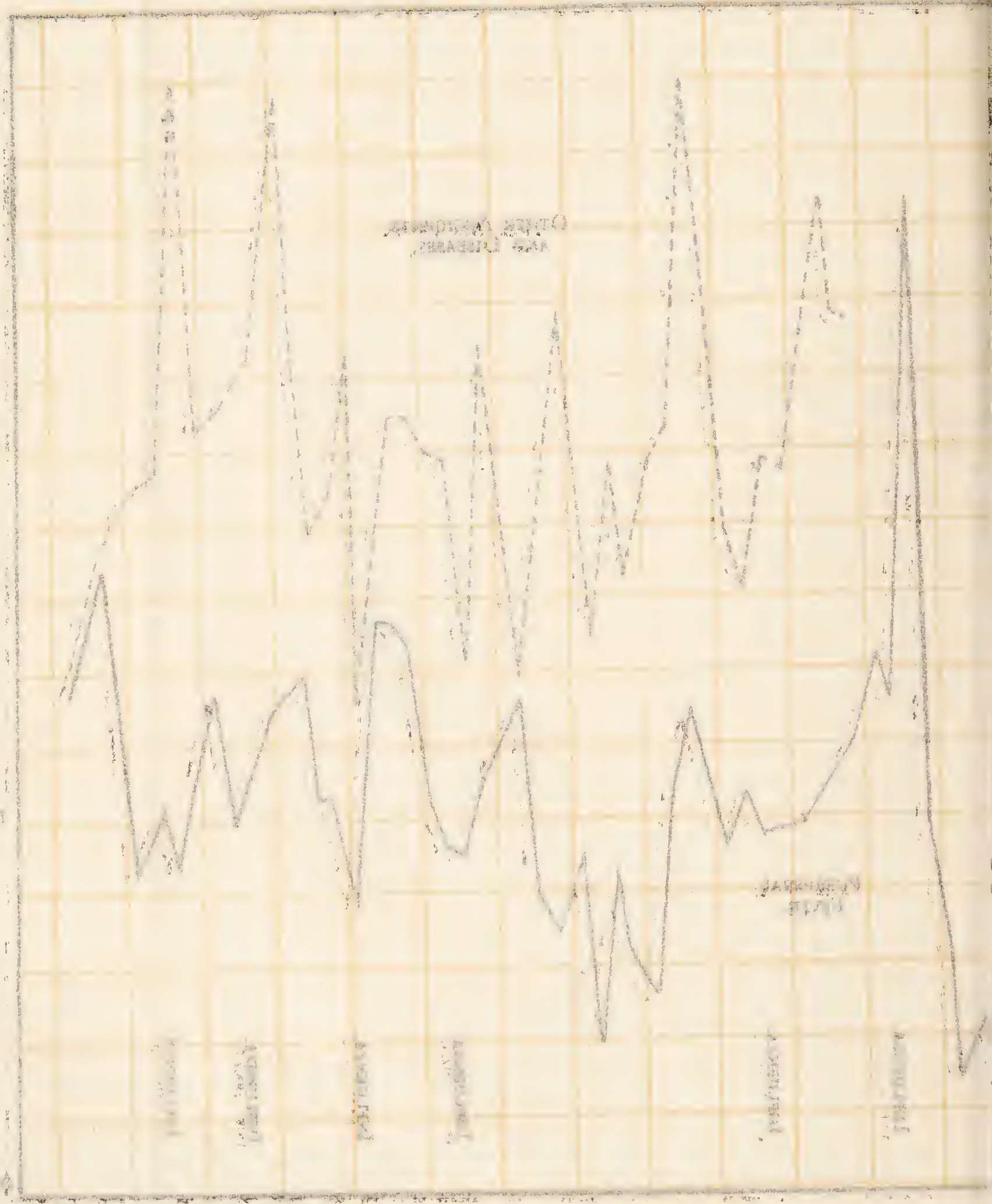
CITY OF LIVERPOOL.

MORTALITY PER 1000 BIRTHS FROM PUERPERAL FEVER AND
OTHER ACCIDENTS AND DISEASES OF PREGNANCY, 1888-1934



CITY OF LIVERPOOL

WATERWORKS ACT 1901
OTHER ACCOUNTS AND FINANCIAL STATEMENTS FOR 1901



periods when abnormalities would be expected to develop. It will be noticed that in certain cases of death, when ante-natal care has left nothing to be desired, there has been existing disease, which, coupled with the added strain of pregnancy and labour, has combated all efforts to ensure good results.

Under "Inadequate ante-natal care" are grouped those cases where there had been no medical examination, insufficient supervision, or where the patient had attended a clinic once, or perhaps twice, early in pregnancy, or where she had sought medical examination and aid when preventable abnormalities were already irrevocably established and no amount of care could avert disaster.

In 45 per cent. of the cases, the patients have not had satisfactory ante-natal care or supervision, which in 55 per cent. of this group had not been sought at all.

Good general health previous to confinement was present in only 13·7 per cent. of the patients.

Special Investigation of Maternal Deaths.

Towards the end of 1928, a form of inquiry was issued by the Ministry of Health Maternal Mortality Committee, in which information in regard to every maternal death is collected from medical practitioners, hospitals, clinics, midwives and health visitors, and forwarded to the Ministry of Health.

As a result of these continued inquiries it was found that during the year 1934, 87 deaths occurred owing to pregnancy, child birth or concurrent diseases, such as heart disease or lung disease associated with pregnancy.

 CLASS I:—DEATHS DIRECTLY DUE TO CHILDBEARING.

1. Puerperal Sepsis.

Sepsis following normal labour	8	} 23
Sepsis following forceps delivery	...	...	...	...	...	5
Sepsis following other abnormalities of labour	5	
Sepsis following abortion	5	

2. Toxaemia (not eclampsia)	3
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3. Eclampsia	1
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4. Haemorrhage.

Ante-partum haemorrhage	11	} 13
Post-partum haemorrhage	2	

5. Shock	2
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6. Embolism	2
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 CLASS II:—DEATHS NOT PRIMARILY DUE TO PREGNANCY.

1. Lung disease (not tuberculosis)	11
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2. Pulmonary tuberculosis	6
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3. Heart disease	10
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4. Chronic renal disease	4
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5. Unclassified	12
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Of the 87 mothers who died, 76 were treated or delivered in hospital, of which 60 were admitted to hospital as emergency cases. Ante-natal care and supervision was satisfactory in only 29 cases, i.e., in one-third of the total number. It was inadequate in 26 cases and entirely absent in 32 cases.

Puerperal Sepsis

Sepsis following Forceps Delivery.

Reg. No.	Age.		Number of Pregnancy.	Circumstances.	General Health.	Ante-natal Care.	Booked or Emergency for Hospital.	Bacteriology.	Remarks.
2	28	Married ...	3rd	Poor	Fair	Satisfactory	Emergency	Strep.	Forceps delivery, admitted to hospital with sepsis 2 days later.
14	24	Married ...	1st	Poor	Fair	Inadequate	Emergency	H. Strep.	Forceps delivery, admitted to hospital 7 days later, patient suffered from severe mental strain and was in consequence debilitated.
36	40	Married ...	9th	Poor	Poor	Inadequate	Emergency	H. Strep.	Failed forceps at home, patient refused hospital treatment, admitted later suffering from chronic bronchitis, anaemia, puerperal sepsis, bad obstetric history.
67	30	Married ...	1st	Fairly good	Good	Satisfactory	Emergency	H. Strep.	Forceps delivery, difficult labour, pyrexia at time of delivery, admitted following day with sepsis.
73	30	Married ...	2nd	Poor	Fair	Satisfactory	Emergency	H. Strep.	Forceps delivery, bad obstetric history, hospital advised but refused, admitted 10 days later suffering from sepsis.

Sepsis following Abortion.

Reg. No.	Age.		Number of Pregnancy.	Circumstances.	General Health.	Ante-natal Care.	Booked or Emergency for Hospital.	Bacteriology.	Remarks.
46	34	Married ...	12th	Poor	Poor	Nil	Emergency	H. Strep.	20 weeks abortion, retained products of conception, admitted to hospital 6 days later with sepsis, terminal lung abscess.
62	25	Married ...	4th	Fair	Poor	Nil	Emergency	H. Strep.	Bronchitis occurred a week before abortion, which took place on day of admission to hospital, pregnancy 15 weeks.
66	30	Illegitimate	8th	Poor	Poor	Nil	Emergency	Not examined	Incomplete abortion, admission to hospital 3 days later as sepsis.
81	29	Illegitimate	4th	Poor	Poor	Nil	Emergency	H. Strep.	Incomplete abortion, no medical aid, admitted to hospital shortly afterwards as sepsis. Patient also had albuminuria, pyuria and cardiac complications.
84	31	Married ...	5th	Fairly comfortable	Good	Nil	Emergency	Negative	Incomplete abortion after a fall, admitted to hospital with sepsis.

Sepsis following other Abnormalities of Labour.

Reg. No.	Age.		Number of Pregnancy.	Circumstances.	General Health.	Ante-natal Care.	Booked or Emergency for Hospital.	Bacteriology.	Remarks.
9	28	Married ...	1st	Fairly comfortable	Poor	Satisfactory	Booked	Not examined	Patient ailing for years, admitted to hospital 2 months before delivery suffering from peripheral neuritis, induction of labour at 20 weeks, patient developed sepsis and acute, pulmonary oedema.
39	40	Married ...	10th	Poor	Poor	Nil	Emergency	Staphylococci	Patient was ailing throughout pregnancy but refused to go to hospital, delivery attempted at home, completed with difficulty in hospital.
41	25	Married ...	1st	Fairly comfortable	Good	Inadequate	Emergency	H. Strep.	Adherent portion of placenta, consultant treatment at home, transferred to hospital on 5th day, case then hopeless.
52	32	Married ...	9th ...	Poor	Poor	Nil	Emergency	H. Strep.	Adherent placenta, hospital treatment refused, manual removal of placenta at home, removal to hospital 9 days later, case then hopeless.
55	33	Married ...	6th ...	Poor	Poor	Nil	Emergency	Gas forming organisms	Adherent placenta, patient sent to hospital for operative treatment.

Sepsis following Normal Labour.

Reg. No.	Age.		Number of Pregnancy.	Circumstances.	General Health.	Ante-natal Care.	Booked or Emergency for Hospital.	Bacteriology.	Remarks.
7	25	Married ...	1st	Poor	Fair	Satisfactory	Booked	Strep.	Pyrexia on admission, normal delivery pyuria, patient malnourished, terminal pneumonia.
15	27	Married ...	5th	Poor	Fair	Satisfactory	Emergency	Not examined	Normal delivery at home, transferred to hospital 7 days later with sepsis, patient malnourished and overworked.
19	33	Illegitimate	3rd	Fairly comfortable	Fair	Inadequate	Emergency	Anaerobic organisms	Normal delivery at home, transferred to hospital on 2nd day with sepsis, patient had purulent salpingitis and generalized peritonitis.
21	40	Married ...	6th	Poor	Poor	Satisfactory	Emergency	H. Strep. in peritoneal fluid	Normal delivery at home, patient ailing, albuminuria, transferred to hospital 2 days later with sepsis, operation for peritonitis.
38	22	Married ...	2nd	Poor	Good	Inadequate	Emergency	H. Strep.	Normal delivery at home, pyrexia on 4th day, hospital treatment refused till too late, operation in hospital, hydronephrosis.
49	38	Married ...	9th	Poor	Poor	Nil	Emergency	H. Strep.	Normal delivery at home (B.B.A.), haemorrhage excessive, thrombophlebitis.
76	36	Married ...	7th	Fairly comfortable	Poor	Inadequate	Emergency	H. Strep.	Normal delivery at home, peritonitis developed on 2nd day, transferred to hospital on 3rd day.
79	25	Married ...	2nd	Poor	Poor	Satisfactory	Emergency	H. Strep.	Old phthisis case, normal delivery at home, sepsis developed on 7th day, with purulent arthritis of right knee, patient transferred to hospital, case hopeless.

Haemorrhage,

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Reg. No.	Age.		Number of Pregnancy.	Circumstances.	General Health.	Ante-natal Care.	Booked or Emergency for Hospital.	Remarks.
1	40	Married ...	5th	Fairly comfortable	Fair	Inadequate	—	Ante-partum haemorrhage, patient died after delivery at home and before a blood transfusion could be given, bad obstetric history.
11	28	Married ...	3rd	Poor	Good	Inadequate	Emergency	Accidental ante-partum haemorrhage due to toxæmia of pregnancy, admitted to hospital in a serious condition. A blood transfusion was given, child still-born, death a few hours after admission, haemorrhage at a previous confinement.
22	36	Married ...	2nd	Poor	Fair	Satisfactory	—	Ante-partum haemorrhage due to central placenta prævia, hospital refused for confinement, forceps delivery at home, death one hour later.
25	42	Married ...	12th	Poor	Good	Satisfactory	Booked	Ante-partum haemorrhage due to placenta prævia, macerated foetus delivered at 31 weeks, death occurred $\frac{3}{4}$ hour later. Bad obstetric history.
27	32	Married ...	6th	Fairly comfortable	Poor	Inadequate	Emergency	Ante-partum haemorrhage, chronic nephritis. Patient transferred to hospital in emergency at 36th week, blood transfusion given, still-birth, death one week later.
42	43	Married ...	12th	Poor	Poor	Nil	Emergency	Ante-partum haemorrhage, chronic bronchitis, albuminuria, concealed haemorrhage, blood transfusion on admission to hospital, died undelivered.
50	35	Married ...	7th	Corporation house	Good	Satisfactory	Booked	Ante-partum haemorrhage due to placenta prævia. Admitted to hospital for treatment, blood transfusion, died undelivered, haemorrhage at a previous confinement.
51	33	Married ...	9th	Poor	Poor	Satisfactory	Emergency	Wasserman reaction positive, admitted to hospital for treatment but went home against advice, ante-partum accidental haemorrhage ensued, patient arrived in hospital in a moribund condition and died undelivered.

Hæmorrhage.—*continued.*

Reg. No.	Age.		Number of Pregnancy.	Circum- stances.	General Health.	Ante-natal Care.	Booked or Emergency for Hospital.	Remarks.
59	25	Married ...	2nd	Poor	Fair	Inadequate	—	Normal delivery, post-mortem hæmorrhage, refused medical aid till too late, hæmorrhage at previous confinement.
61	40	Married ...	12th	Poor	Poor	Satisfactory	Booked	Acute liver necrosis, patient died in labour at full term due to concealed accidental hæmorrhage.
71	29	Married ...	5th	Poor	Fair	Inadequate	Emergency	Ante-partum hæmorrhage, 28 weeks foetus delivered in hospital, placenta adherent, patient died of shock and acute myocardial failure 4 hours later.
72	24	Married ...	4th	Fairly comfortable	Good	Nil	Emergency	Acute-partum hæmorrhage due to placenta prævia, patient died undelivered a few minutes after admission to hospital.
87	33	Married ...	6th	Poor	Poor	Satisfactory	—	Post-partum hæmorrhage due to retained placenta, hospital treatment refused, blood transfusion given at home but patient died a few hours after delivery. Hæmorrhage at previous confinements.

Cardiac Disease.

Reg. No.	Age.		Number of Pregnancy.	Circumstances.	General Health.	Ante-natal Care.	Booked or Emergency for Hospital.	Remarks.
4	35	Married ...	5th	Very poor	Poor	Satisfactory	Emergency	Mitral stenosis, normal delivery at home, sent into hospital 5 hours after delivery, broncho-pneumonia and auricular fibrillation supervened.
10	37	Married ...	7th	Poor	Poor	Satisfactory	Emergency	Mitral regurgitation, chronic bronchitis, albuminuria, midwife booked, patient sent into hospital for delivery.
29	26	Married ...	1st	Poor	Poor	Inadequate	Booked	Hyperemesis, chronic bronchitis, asthma, mitral stenosis, patient was treated in a medical ward prior to caesarean section.
31	34	Married ...	12th	Very poor	Poor	Nil	Emergency	Normal confinement at home, patient very ill but refused hospital treatment till too late, on admission emphysema, pericarditis, jaundice.
35	42	Married ...	3rd	Fairly comfortable	Poor	Nil	Emergency	Abortion at 4 months, patient refused medical attention and was not transferred to hospital till too late, on admission she was found to have infective endocarditis, blood cultures negative for streptococci.
44	22	Illegitimate	1st	Poor	Poor	Nil	Emergency	Patient admitted to hospital on account of mitral stenosis, induction was performed at 39 weeks.
47	19	Married ...	1st	Poor	Poor	Satisfactory	Booked	Mitral stenosis and aortic leak. Caesarean section performed at 37th week.
57	34	Married ...	7th	Poor	Poor	Inadequate	Emergency	Mitral stenosis, patient refused medical attention till she was seriously ill—3 weeks before abortion occurred, she was then admitted to hospital.
74	40	Married ...	5th	Poor	Poor	Inadequate	Emergency	Abortion occurred at 26 weeks.
78	25	Married ...	2nd	Poor	Poor	Inadequate	Booked	Mitral stenosis, auricular fibrillation; deserted wife, induced labour at home, hospital treatment refused till too late, terminal cerebral embolism.
								Mitral stenosis, congested lungs, admitted to hospital for ante-natal treatment, went home against medical advice, died 5 days later undelivered.

Phthisis.

Reg. No.	Age.		Married	...	Number of Pregnancy.	Circumstances.	General Health.	Ante-natal Care.	Booked or Emergency for Hospital.	Remarks.
13	20		Married	...	2nd	Poor	Poor	Satisfactory	Booked	Hospital patient, premature at 34 weeks.
16	27		Married	...	4th	Poor	Poor	Nil	—	Hospital treatment refused, premature at 40 weeks.
17	22		Married	...	1st	Fair	Poor	Satisfactory	—	Refused to remain in hospital, died undelivered at 24 weeks.
45	29		Married	...	4th	Poor	Poor	Nil	Booked	Induction in hospital at 24 weeks.
60	29		Married	...	3rd	Fairly comfortable	Poor	Inadequate	Emergency	Phthisis, tubercular ulceration of the naso-pharynx.
70	20		Married	...	1st	Poor	Poor	Nil	Emergency	Phthisis, tubercular ulceration of the larynx.

Reg. No.	Age.		Number of Pregnancy.	Circumstances.	General Health.	Ante-natal Care.	Booked or Emergency for Hospital.	Remarks.
3	31	Married ...	5th	Corporation house	Poor	Nil	Emergency	Onset 2 days after delivery at 36 weeks.
18	25	Married ...	4th	Corporation house	Fair	Inadequate	Emergency	Onset 5th day after delivery, refused hospital treatment till too late.
23	38	Married ...	1st	Fair	Good	Nil	—	Fulminating case, died undelivered at 26 weeks.
24	25	Married ...	2nd	Fair	Poor	Satisfactory	—	Hospital treatment refused, still birth at 36 weeks.
32	34	Married ...	5th	Poor	Very poor	Nil	Emergency	Encephalitis lethargica, still birth at 28 weeks.
34	36	Married ...	6th	Fair	Poor	Satisfactory	Emergency	Onset on 6th day after still birth at 28 weeks.
37	42	Married ...	9th	Fair	Poor	Nil	Emergency	Still birth at 28 weeks, refused hospital treatment till too late.
56	22	Married ...	2nd	Poor	Poor	Nil	Emergency	Onset day before delivery at 40 weeks.
65	27	Married ...	2nd	Poor	Poor	Satisfactory	Emergency	Admitted to hospital with pneumonia and died undelivered.
68	34	Married ...	8th	Poor	Poor	Nil	Booked	Patient was admitted to hospital prior to confinement on account of pneumonia. She went home against medical advice, later returned and was prematurely confined. Pyelo-nephritis ensued.
82	37	Married ...	6th	Poor	Poor	Inadequate	Emergency	Patient was ailing, hospital was advised but refused till she was hopelessly ill, premature still birth occurred in hospital. There was long standing bronchitis and emphysema.

Shock.

43	35	Married ...	3rd	Poor	Poor	Satisfactory	—	General ill-health for some years, patient died from shock 1½ hours after delivery at full term.
83	42	Married ...	6th	Poor	Poor	Nil	Emergency	Anaemia and general illness, medical treatment refused, shock after difficult labour.

Embolism.

Reg. No.	Age.		Number of Pregnancy.	Circumstances.	General Health.	Ante-natal Care.	Booked or Emergency for Hospital.	Remarks.
5	43	Married ...	7th	Poor	Fairly good	Nil	—	Patient addicted to drink, phlegmasia alba dolens developed after normal confinement. Difficult forceps, hydrocephalic still born foetus, pulmonary embolism.
48	34	Married ...	4th	Fairly comfortable	Good	Satisfactory	—	

Eclampsia.

58	19	Married ...	1st	Poor	Poor	Satisfactory	Emergency	Albuminuria, admitted to hospital too late, still birth at 30 weeks.
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Toxaemia (not Eclampsia).

64	21	Illegitimate	1st	Poor	Poor	Inadequate	Emergency	Hydatidiform mole, haemorrhage, toxæmia of pregnancy.
77	33	Married ...	2nd	Poor	Poor	Inadequate	Emergency	Hospital treatment refused, hyperemesis gravidarum, abortion at 16 weeks.
85	30	Married ...	1st	Poor	Poor	Satisfactory	Emergency	Acute yellow atrophy, induction at 14 weeks.

Nephritis.

6	33	Married ...	6th	Poor	Poor	Satisfactory	Booked	Chronic nephritis, premature delivery at 38 weeks, puerperal mania supervened and patient died from exhaustion.
28	44	Married ...	10th	Poor	Poor	Inadequate	Emergency	Hospital refused till too late, chronic nephritis, anaemia, abortion at 22 weeks.
40	34	Married ...	5th	Poor	Poor	Inadequate	Booked	Chronic nephritis, patient refused to remain under treatment, died undelivered at 10 weeks.
86	33	Married ...	2nd	Comfortable	Poor	Inadequate	Emergency	Sub-acute nephritis, cystitis, congestion of lungs, treatment instituted too late, premature birth at 30 weeks.

Unclassified.

Reg. No.	Age.		Number of Pregnancy.	Circumstances.	General Health.	Ante-natal Care.	Booked or Emergency for Hospital.	Remarks.
8	27	Married ...	2nd	Poor	Poor	Nil	Emergency	Intestinal obstruction, carcinoma recti, 16 weeks' abortion.
12	28	Married ...	1st	Poor	Poor	Satisfactory	Booked	Haemorrhage after a fall, bronchitis, acute pyelitis, abortion at 24 weeks.
20	25	Married ...	4th	Poor	Poor	Satisfactory	Emergency	Ante-partum streptococcal peritonitis, still-birth, patient refused hospital treatment till too late.
26	38	Married ...	8th	Poor	Poor	Nil	Emergency	Diabetes mellitus, abortion at 26 weeks, patient moribund on arrival in hospital.
30	39	Illegitimate	9th	Poor	Poor	Nil	Emergency	Mesenteric thrombosis, intestinal obstruction, congestion of lungs, albuminuria, refused hospital till too late.
33	45	Married ...	9th	Poor	Poor	Nil	Emergency	Still birth, cerebral neoplasm.
53	28	Married ...	3rd	Poor	Poor	Inadequate	Emergency	Acute puerperal mania.
54	23	Married ...	1st	Poor	Poor	Nil	Emergency	Disseminated encephalo-myelitis, patient died undelivered at 15 weeks.
63	22	Married ...	2nd	Poor	Poor	Nil	Emergency	Hospital and clinic refused till too late, myocardial degeneration due to aplastic anaemia, patient died undelivered at 26 weeks.
69	33	Married ...	1st	Poor	Poor	Inadequate	Booked	Miliary tuberculosis and heart failure.
75	27	Married ...	5th	Poor	Poor	Nil	Emergency	Medical treatment refused till too late, chronic otorrhoea, measles, acute meningitis, died undelivered at 24 weeks.
80	25	Married ...	2nd	Poor	Good	Inadequate	Booked	Normal delivery, acute appendicitis, acute peritonitis.

Ophthalmia Neonatorum

Inflammation in the eyes of the newly-born.—The definition adopted for the purpose of dealing with this disease is that used in the rules issued by the Central Midwives Board, governing the practice of midwives, namely, in the section relating to the child, “Inflammation of, or discharge from, the eyes, however slight.” It is considered advisable, therefore, to include inflammation of all degrees of severity in the term “Ophthalmia Neonatorum.” The following figures give some details as to the source of information and character of the cases dealt with during the year :—

The number of cases brought to the notice of the department during the year was 695, which consisted of :—

Mild cases	...	...	...	...	...	...	576
Severe cases	...	...	...	...	...	...	119
							<hr/> 695 <hr/>

These cases were dealt with as follows :—

Number treated in their homes by special nurse	...	257
„ attended at hospital as out-patients and special nurse	... ..	142
„ admitted to hospital	... ..	26
„ treated by medical attendants and special nurse	... ..	89
„ treated by medical attendants alone	... ..	159
„ treated and cured in hospital	... ..	22
		<hr/> 695
„ of cases brought forward from previous year...		30
		<hr/>
Total		725 <hr/>
		<hr/>
Number of cases cured	... ..	693
„ died under treatment	... ..	8
„ under treatment 31/12/34	... ..	24
		<hr/>
Total		725 <hr/>

In addition to the above, 41 cases notified were not cases of ophthalmia neonatorum.

Arrangements have been made with the City Bacteriologist to examine the discharge in every notified case of inflamed eyes in the newly-born. This enables a prompt verification of the disease to be determined.

No. of notifications.	Cases from which specimens were examined by the City Bacteriologist and at St. Paul's Hospital.	No. of cases of positive Gonorrhoea.	Percentage to total cases examined.	Percentage to total notifications.
695	88	19	22	2.7

The total number of visits and re-visits paid in respect of the above cases was 4,825.

A very important part of the scheme for dealing with this disease is the provision at St. Paul's Eye Hospital of five beds and cots for the reception of infants with their mothers, where the former can be under the immediate care of ophthalmic surgeons and nurses during the acute stage of the disease. During the year 20 babies were admitted with their mothers.

Nursing Homes.

Midwives and Maternity Homes Act, 1926. Nursing Homes Registration Act, 1927.—During the year two applications for registration were received by the Town Clerk. After careful investigation of the premises and practice of the applicants, these were approved by the Maternity and Child Welfare Sub-Committee and registered. Fourteen registrations were cancelled, in six cases owing to removal, in three cases owing to the death of the keeper of the home, and in five because the keeper of the nursing home desired to give up practice. Three were cancelled and re-registered—two at a new address and one because of a re-arrangement of the home. No further exemptions other than those already granted were applied for.

The Nursing Homes on the register at the end of the year numbered 56, the approximate number of beds being 267.

Babies born in Nursing Homes during the year numbered 580 (including 7 twin births).

Visits of the Staff of the Midwifery Department to Special Cases.

These cases are not classifiable in any of the sections so far considered and include visits to women suffering from venereal disease, visits paid to cases of puerperal pyrexia and puerperal sepsis, visits relating to deaths of infants under 11 days old, cases of weaning, maternal mortality, etc. Such visits during 1934 numbered 1,372.

THE HEALTH VISITORS' DEPARTMENT.

This work is carried out by a staff of trained health visitors.

The work of the health visitors comprises the following :—

- (1) Ante-natal or pre-maternity clinics for expectant mothers.
- (2) Clinics for children up to five years of age.
- (3) Instruction classes at the above clinics in cutting out, sewing, knitting, etc.
- (4) Visiting in the homes under the Notification of Births Acts, 1907 and 1915.
- (5) Home-visiting in connection with the ante-natal and post-natal clinics.
- (6) Home-visiting of children up to five years of age to advise generally on their care and feeding
- (7) Home-visiting of pre-school children in relation to defects, e.g., to arrange, in conjunction with the School Medical Department, for treatment of squint, otorrhœa, orthopædic defects, etc.
- (8) Visiting under Children Act, 1908, and Children and Young Persons Act, 1933.

- (9) School medical inspection (see page 117).
- (10) School Clinics—minor ailments and special ailments.
- (11) Home-visiting in connection with school medical work.
- (12) Cleansing of school children.
- (13) Special visits :—
 - (a) Phthisis in women and children.
 - (b) Measles, whooping cough and pneumonia.
 - (c) Infantile diarrhoea.
 - (d) “ House to house ” inspection.
- (14) Other special visits in connection with :—
 - (a) Aged and infirm people.
 - (b) Prevention of cruelty to children.
 - (c) Provision of fireguards.
 - (d) Relieving officers.
 - (e) Admissions to Day Nurseries.
 - (f) Certain areas in which infantile diarrhoea is likely to occur.
 - (g) After care of children under 1 year of age discharged from Alder Hey Hospital and Olive Mount Hospital.
 - (h) Supply of milk to expectant and nursing mothers and children.
 - (i) Voluntary agencies.
 - (j) Other special enquiries.

Ante-Natal Clinics.

Experience has shown that conditions productive of a high rate of mortality among mothers point also to a high rate of morbidity, which is, unfortunately, not calculable by available statistics. Among the arrangements for the care and supervision of expectant motherhood ante-natal clinics have a large place.

In Liverpool there are 22 centres at which 44 ante-natal clinics are held weekly. Of these clinics, 15 are under the auspices of the Liverpool Maternity Hospital, two are held at the Royal Infirmary, two at Walton Hospital, five at Mill Road Infirmary, two at Smithdown Road Hospital, three are administered by the Child

Welfare Association, and the remaining fifteen by the Maternity and Child Welfare Sub-Committee. At an ante-natal clinic, specialised examination is provided, for the most part, by consultant obstetricians.

Classes for mothers are held at the ante-natal clinics in rotation. At these classes the mothers are advised on the preparation for their confinements, hygienic maternity clothes for themselves, and suitable cot, bedding and clothing for the coming infant.

The attendances at classes held by the health visitors at Corporation ante-natal clinics amounted to 6,092.

Treatment, except of a minor or preventive character, is not given. Patients in need of treatment are referred to private medical practitioners or, if necessary, to a suitable hospital. Milk is provided for expectant mothers on a doctor's order.

Expectant mothers come to the clinics from many sources, as will be seen by the following table which refers to the Municipal Clinics, Liverpool Transferred Hospital Clinics, Royal Infirmary Clinic, the Liverpool Maternity Hospital Clinics, Child Welfare Association and the Royal Liverpool Babies' Hospital, Woolton.

Voluntary attendances	...	...	...	...	...	4,752
Sent by midwives	...	...	...	...	...	3,610
Recommended by friends	...	...	...	...	...	1,870
Return cases	...	...	...	...	...	3,839
Sent by medical practitioners	...	...	...	...	...	781
„ health visitors	...	...	...	...	...	142
„ hospitals	...	...	...	...	...	114
„ relieving officers	...	...	...	...	...	15

All ante-natal clinics (including municipal and voluntary clinics).

Total new cases	...	...	...	...	...	15,123
Total attendances	...	...	...	...	...	73,183
Cases referred to all hospital clinics from the various ante-natal clinics, not included in the total attendances	...	...	...	...	...	1,179

It is interesting to note that approximately 78·4 per cent. of the mothers visited by the health visitors, under the Notification of Births Acts, attend the ante-natal clinics.

Mothers who stay at home for their confinements and have no women relations or friends to assist them in their housekeeping are very grateful for the provision of a home help. Home helps are women who can take the place of the housewife in the home, and cook, clean and attend to the children. They are provided by the Women's Service Bureau, Gambier Terrace. This organisation also provides maternity bags and sterilised accouchement sets, which are a great boon to very poor mothers and to those who unexpectedly bear twins. Midwives are encouraged to visit the homes of their patients and to investigate carefully the arrangements for confinement. Where these conditions are unsatisfactory, every effort is made to rectify them at once.

Post-natal examination of recently confined mothers.—Mothers are encouraged to attend the ante-natal clinics after the birth of the infant has taken place. This is for the purpose of examination to ascertain the existence of any morbid condition which might have occurred owing to the confinement. Such lesions, if left untreated, may give rise to much disability and suffering later.

Child Welfare Clinics (for Children up to five years of Age).

Child welfare clinics have a three-fold aim. First, to instruct mothers in the care and feeding of infants and young children; second, to supervise the progress of the young child and to prevent, as far as possible, unnecessary illness due to ignorance of mothers; and third, to assist in restoring the mother to health and in establishing natural feeding. Talks are given to mothers on hygiene, and classes are held at which instruction in knitting, cutting out and making children's clothes is given.

Attendances at Municipal Maternity and Child Welfare Clinic classes numbered 20,683 during the year.

It will be noted that these clinics do not in any sense take the place of a hospital, dispensary or private doctor's consultation. Accessory foods, such as cod liver oil, emulsion, and so forth, are given on a

doctor's order at cost price. In the case of infants whose mothers are unable to breast-feed them, Grade A (T.T.) milk or dried milk may be ordered by the clinic doctors. (A fuller account of this subject comes under the section dealing with milk depots.)

The sources of admission to the child welfare clinics are similar to those of the pre-maternity clinics, but mothers having once attended an infant clinic frequently attend as a matter of course with each succeeding child.

The value of the mother's attendance at a clinic is increased by visits to her home which are paid by the health visitor, who has either registered or weighed her baby or taken notes of the doctor's advice at the clinic.

Children who have been seen by the doctor at a clinic are visited in order to ascertain if the doctor's instructions are understood and are being properly carried out.

The following figures give the numbers of children admitted to the various child welfare clinics in the city :—

Admissions for year	...	...	...	...	...	10,964
Total attendances for the year	...	...	...	...	...	170,610

There are 17 centres at which 44 sessions are held per week.

The percentage of attendances amount to 54·6 of the births.

The Health Visitors' Work carried out in the Homes.

Visiting in the homes under the Notification of Births Acts has been carried out since 1907 in Liverpool. This establishes contact with the mother and child as soon as the puerperium is over and follows on the attendance of the doctor or midwife or on the patient's discharge from hospital. At this time, advice is given and the mother (or child) referred to her own doctor or to an infant clinic.

Visits in this connection are continued periodically, whether the child attends a clinic or not. Notes are made on the general progress and children are referred for appropriate treatment for defects, when required.

Home visiting is a necessary adjunct to the ante-natal, post-natal and child welfare clinics. Frequently the directions and advice given in the clinic are not clearly understood by the mother and require further explanation. This is best given informally in the home. The home conditions are sometimes found to be inimical to the welfare of the child or even of the whole family, and it is only by a careful investigation of the circumstances that suitable corrections can be made.

It is noted elsewhere in this report that infantile diarrhœa is much less prevalent now than in former years. To a large extent this is due to the careful visiting in the early part of the year of homes and areas likely to be affected, so that householders may be warned of the danger of flies and advised as to methods adopted for their destruction.

All notified cases of measles, whooping cough and pneumonia nursed at home are also visited by members of the health visiting staff. Appropriate assistance is given, either in the actual nursing of the child or in arranging for its efficient isolation from other members of the family.

The health visitors' duties in connection with the School Medical Department are very extensive and include attendances at the schools during the routine school medical examinations, concentration visits to schools, attendance at all school clinics and clinics for the treatment of special defects, e.g., defective vision, aural troubles, enlarged tonsils and adenoids, and ringworm.

By arrangement with the School Medical Department, pre-school children—that is those under the age of school attendance—suffering from defects of eyes or ears or from orthopædic defects may receive treatment and advice at the School Medical Department's special clinics. During 1934, 527 children under five years of age were referred for special treatment to this department.

Defective vision	...	...	...	...	...	198
Otorrhœa	...	...	...	...	...	189
Orthopædic defects	...	...	...	...	...	140

Home visits were paid in each case, and all the children were found to be unable to obtain the necessary treatment from private practitioners on account of poverty, or from hospital out-patient departments on account of the already long waiting lists, necessitating loss of time and consequent risk of irremediable defects. (Further details of the work of the health visitors are given in the report of the School Medical Officer, which is separately printed.)

Statistics Relating to Home Visits.

Visits to expectant mothers by health visitors	2,535
<i>Visits under the Notification of Births Acts, 1907 to 1915.</i>	
Number of births visited during the year	17,681
Re-visits to births during the year	53,181
Re-visits to infants of 1 year to 5 years of age	65,973
<i>Visits paid to homes of nurse children under Part I of the Children Act, 1908</i>	
	1,517
<i>After care visits to children under one year of age discharged from Municipal Hospitals:—</i>	
Visits to 276 cases from Alder Hey Hospital	761
„ „ 263 cases from Olive Mount Hospital	632
<i>Visits to cases of infectious disease, etc.</i>	
Visits to cases of measles (first visits, 7,856)	12,569
„ „ whooping cough (first visits, 728)	1,128
„ „ pneumonia	1,243
„ „ infantile diarrhoea	627
Re-visits to phthisis cases amongst women and children...	5,440
Number of visits paid to schools	9,692
„ hours spent in schools	17,388
„ children inspected in schools	48,095
„ re-inspections in schools	172,007
„ dental inspections in schools	66,199
„ home visits to cases of physical defects	7,631
„ home visits to neglected and verminous school children	17,635
„ home visits to school children suffering from infectious skin diseases, etc.	235

*Attendance at Minor Ailments Clinics, and Eye, Ear,
Tonsils and Adenoids, Dental, Scabies and
Ringworm Clinics.*

Number of visits to school clinics	...	...	...	10,299
,, hours spent at school clinics	...	...	...	36,320
,, attendances at school clinics	...	...	...	378,287

Rickets Enquiry.

So many cases of rickets coming to the notice of the Public Health Department suggested that a special enquiry might, with advantage, be made into the mode of living of the children affected. Consequently, all rachitic children who were sent to the Carnegie Welfare Centre for artificial sunlight or for admission to the wards, were the subject of careful enquiry. The total number of cases including those from Alder Hey Hospital was 172.

This report deals with only a limited number of existing cases, but it serves to throw into prominence not only the established tenets as to the cause and prevention of rickets, but the fact that much closer supervision of early infancy is necessary and that much more attention should be paid to the education of mothers in matters concerned with the evil consequences of rickets and its prevention and cure.

In the severe type, regular attendance at the clinics is shown in only two cases. The tendency of severe cases of rickets to respiratory and infectious illness would account for a good deal of non-attendance, but it was also noted that very few of these children attended the clinic sufficiently early to allow of measures being taken to ensure a healthy infancy and childhood under conditions of home life which would tend to act adversely on the child's well being.

The lack of regular provision, from early infancy, of cod liver oil, which is one of the most convenient and successful methods of administering the anti-rachitic vitamin, is clearly shown to be a factor influencing the incidence of rickets.

Investigation has also brought to light the important point that, in the large majority of breast-fed infants, the mother's diet and health have been poor, facts which tend to react adversely on the nutrition of the child.

The following table illustrates these points :—

	Severe Type.	Moderate Type.	Early Type.
NO. OF CASES	13	76	83
BREAST FEEDING :—			
Nil or under three months... ..	33·7%	25%	36·2%
Over three months	66·3%	75%	63·8%
FRESH AIR AND GOOD CONDITIONS :—			
Satisfactory	38·4%	38%	43·4%
Unsatisfactory	61·6%	62%	56·6%
ILLNESSES :—			
Respiratory	8%	13·2%	16·9%
Infectious	38·5%	31·5%	14·4%
Other... ..	15·5%	7·8%	9·6%
Nil	38%	47·5%	59·1%
ATTENDANCE AT A CHILD WELFARE CLINIC :—			
Regular	23%	40·7%	55·4%
Irregular	46%	30·3%	20·5%
Nil	31%	29%	24·1%
PROVISION OF COD LIVER OIL :—			
Regular	Nil	21·8%	42·1%
Irregular	38·4%	44·7%	26·5%
Nil	61·6%	33·5%	31·4%

Administration of Part I of the Children Act, 1908.

- (a) Number of persons receiving children for reward on the
Register at the end of the year 1934 171
- (b) Number of children on the Register—
- (1) at the end of the year 245
- (2) who died during the year...(1 in hospital and 2 in homes)
- (3) on whom inquests were held during the year ... Nil
- (c) Proceedings taken during the year Nil

Neo-natal Mortality.

During the year the number of deaths of children under 28 days old (Neo-natal Deaths) amounted to 570, equal to a rate of 32 per 1,000 live births registered.

Special enquiry was made into the deaths of all these newly-born children, i.e., those under 28 days old, and the results are shown in the following table :—

Cause of Death.	Under 7 days old.	7 days and under 28 days.	TOTAL under 28 days.
Prematurity	250	57	307
Respiratory Diseases	50	30	80
Congenital Malformation	27	23	50
Feebleness at birth	11	13	24
Convulsions	12	8	20
Want of attention at birth	5	—	5
Found dead	5	—	5
Haemorrhage	23	—	23
Birth injuries	9	2	11
Jaundice	6	5	11
Asphyxia	2	—	2
Congenital Syphilis	1	1	2
Diarrhoea and enteritis	2	6	8
Pemphigus Neonatorum	—	5	5
Other causes	—	17	17
TOTAL	403	167	570

It is evident that premature birth is responsible for more than half the total number of deaths of infants during the neo-natal period. In the majority of cases, it has not been possible to assign definite causes for prematurity. Seasonal influence appears to have no bearing on the occurrence of deaths in any of the above-mentioned groups. It will be noted, however, how few of the total deaths occur at this early age from gastro-enteritis or diarrhoea.

Deaths from Diarrhœa and Enteritis. Results of Enquiry.

Enquiries were made into 154 of the deaths recorded. In a few instances the parents could not be traced.

In 8 cases there was a predominant history of wasting or marasmus. In 22 cases the onset of enteritis had been preceded by an attack of pneumonia or bronchitis, and in 4 others by measles, or other infectious illness. In 5 instances, where deaths were ascribed to enteritis, there was no diarrhœa, but vomiting only.

Congenital conditions accounted for one death. In 13 cases the infant was known to have been premature; in 27 cases the infant was said to have been delicate from birth.

Eight deaths were of infants under 28 days old (Neo-natal deaths) the ages being as follows:—

Under 7 days	...	...	...	...	2
7 and under 14 days	...	...	...	...	—
14 „ „ 21 „	...	...	...	...	2
21 „ „ 28 „	...	...	...	...	4

Acute intestinal infections are uncommon at these early ages, when the child is almost invariably breast-fed.

Other Associated Diseases—Apart from the respiratory diseases, 22 in number, referred to above, the following conditions were present, and in most cases were the cause of the child's admission to hospital, enteritis being a terminal condition.

Wasting and feebleness	...	...	35 cases.
Prematurity	...	...	13 „
Infantile Dyspepsia	...	...	11 „
Convulsions	...	...	14 „
Infectious disease	...	...	4 „
Otitis	...	...	5 „
Stomatitis	...	...	2 „

Cellulitis of face	...	...	1 case.
Other skin diseases	...	...	6 „
Pyelitis	...	...	1 „
Congenital Syphilis	...	...	1 „
Meningitis	...	...	1 „
Glands in neck	...	...	1 „

It seems almost certain that these various conditions played a large part in causing the deaths of the infants.

Maternal Illness or Death.—The care of the mother is so essential to the wellbeing of the newborn child that it is not surprising that in 34 cases the serious illness or death of the mother was followed by the death of the child (illness of mother, 31 cases; death of mother 3 cases).

Severe illness involved the weaning of the child.

Social Conditions.—Six, at least, of the children were illegitimate, and the babies having been admitted to some institution at an early age had necessarily been weaned for this reason. In a further 8 cases of infants who died in institutions, the parents could not be traced at the address given. The home conditions or storage of food were unsuitable in 65 cases.

Methods of Feeding.—The majority of the children were artificially fed in whole or in part. Artificial feeding if not carefully carried out not only predisposes the child to a fatal infection, by rendering it more susceptible, but provides the medium, usually milk, by which the infection is conveyed. Classified according to the method of feeding, the cases were:—

Entirely breast-fed	...	...	40
Mixed breast-fed and artificially	...	...	93
No history obtainable or inadequate information	...	...	8
Artificially fed entirely	...	...	13
<hr/>			
Total	...	...	154
<hr/>			

See also pages 77—81 for further details relating to diarrhoea and enteritis.

Carnegie Welfare Centre.

The Carnegie Welfare Centre has now completed 11 years as a most useful and educational welfare centre in the city.

During 1934 the work of former years has been carried on, but with an increased number of attendances in many departments.

Child welfare clinics are held on four afternoons per week. Two ante-natal clinics are held each week. The attendances at the clinics have shewn an increase each year on those of the year preceding. The classes for knitting, sewing, etc., have also been well attended.

Observation Wards.—The number of infants admitted during 1934 was 149, and the reasons for admissions were :—

1. Failure to make normal progress	...	...	...	...	...	...	...	...	...	40
22 improved.										
7 taken home for medical treatment at home.										
3 still under treatment.										
2 poor progress.										
2 died										
4 transferred to isolation hospital.										
2. Infantile Dyspepsia	...	...	...	...	...	...	...	...	...	31
20 cured.										
2 transferred to hospital.										
7 taken home for private medical attention.										
2 died.										
3. Rickets	...	...	...	...	...	...	...	...	...	77
52 improved.										
10 taken home for private medical attention.										
5 transferred to isolation hospital.										
7 still under treatment.										
2 poor result.										
1 died.										
4. Observation...	...	...	...	...	...	...	...	...	...	1
1 sent home well.										

Total ... 149

The average duration of stay in the wards has been 28 days, but the actual time has varied from a few days to several weeks.

Ultra-violet irradiation clinic.

Three sessions are held each week. During the summer months which were rather more than usually fine, the numbers attending were reduced, but on the onset of the colder weather, numbers rapidly increased.

Only those rachitic children definitely non-surgical are treated. Those admitted to the wards give better results on the whole than those attending as out-patients. (No inference of any value can be drawn from this fact, as cases are taken as they are sent from the clinics, and no control observations can conveniently be made).

The children who are classed under the heading of "Lack of normal progress" are those in whom no very definite cause for their failure to gain weight normally is apparent. Occasionally the condition is dated from some previous illness or even from weaning. It is frequently due to poverty, mismanagement, neglect, or overcrowding with resultant conditions of defective hygiene. Occasionally some latent infection is responsible, and more often than not a combination of adverse conditions is found.

New cases during 1934	...	...	...	...	...	...	409
Attendances	...	...	...	...	...	...	5,419
Still under treatment	...	...	...	...	...	...	59

<i>Rickets</i>	170
----------------	-----	-----	-----	-----	-----	-----	-----	-----

98 good results.

23 poor results.

49 discontinued treatment before the course was completed.

<i>Failure to make normal progress</i>	77
--	-----	-----	-----	-----	-----	-----	----

43 good results.

10 poor results.

24 discontinued treatment.

Dental Clinics.

Four Dental Clinics are held weekly for expectant mothers, nursing mothers and children up to five years of age. Three of these clinics are municipal and one is a voluntary clinic.

Attendances at all clinics :—

New cases	...	...	...	...	...	...	1,007
Ante-natal and post-natal mothers	...	...	...	...	...	...	823
Children	...	...	...	...	...	...	184
Number of extractions	...	...	...	...	...	...	3,457
„ fillings	...	...	...	...	...	...	14
Total attendances	...	...	...	...	...	...	2,230

Maternity and Rest Home.

“ Quarry Bank,” 162 Hawthorne Road.

The accommodation of the home consists of two wards, together with an emergency ward and two isolation wards, and a labour ward, containing 18 beds in all.

The statistics relating to the treatment of patients in the home during the year 1934 are as follows :—

Total number of cases admitted	...	...	...	278
Number of women confined in the home		...	...	245
,, pre-maternity cases	...	...	...	33
,, post-natal cases	...	...	...	Nil

The average duration of stay was 15·7 days.

Of the 245 cases of labour conducted in the home, the patients in all cases made a good recovery, and no maternal mortality occurred. The normal cases numbered 224, and the cases of complicated labour were 21. Seven patients were transferred to hospital, 6 for caesarean section, 1 for observation, 1 for gonococcal infection. Of the total number of cases, 162 were primigravidæ. Former patients admitted for a second confinement at the home numbered 37, for a third time 10, for a fourth time 2, and for a fifth time 1.

Of the 251 babies born in the home, 243 were born alive and 8 were still-born. In the case of the still-births the causes of death were stated to be: 3 macerated foetus, 1 intra uterine asphyxia, 2 prematurity, 1 tear of tentorium, 1 anencephalic foetus.

Of the 243 babies born alive, 4 died within 10 days of birth. The causes of death were: prematurity 1, atelectasis 1, rupture of vein of galen 1, convulsions 1.

The 33 pre-maternity cases were admitted on account of various complications associated with pregnancy, such as albuminuria, bacilluria, heart disease, varicose veins, hydramnios and contracted pelvis. Of these all remained in or returned to the home for confinement.

No case of ophthalmia neonatorum or pemphigus occurred in the home during the year.

Source of Patients admitted to the Home.

Sent by friends	...	...	...	...	150
,, midwives	...	...	...	...	1
,, medical practitioners			...	...	52
,, health visitors		...	...	...	3
Referred from hospital		...	...	...	22
Return cases	...	...	...	...	50

An ante-natal clinic is held at the home once per week, when the medical officer attends to see patients.

During the year 296 patients attended for the first time, and the total number of attendances was 1,388, the average attendance per week being 27.

DAY NURSERIES.

The Day Nurseries in Liverpool are 6 in number, 4 of which are under the control of the Maternity and Child Welfare Sub-Committee. Children from the age of one month to five years are admitted, and may remain from 7 a.m. to 7 p.m. on week-days and 7 a.m. to 1 p.m. on Saturdays.

A daily or weekly charge is made for each child, which is based on an income and expenditure figure. Only the children of mothers who are obliged to work by reason of widowhood, unemployment or incapacity of their husbands, are admitted. The particulars given to the matron on admission of each child are investigated by a call made at the home by the health visitor for the district in which it is situated.

The two voluntary nurseries are administered on somewhat similar lines to those under the control of the Maternity and Child Welfare Sub-Committee.

The total accommodation in the Corporation Nurseries is 172 and in the Voluntary Nurseries 130.

Statistics relating to Corporation Nurseries.

NEW ADMISSIONS.

Age.					West-minster Road.	Smith-down Lane.	Gt. George Square.	Garston.
Under 1 year	...	...	...	...	25	25	20	15
1 year—2 years	...	...	...	...	30	19	9	14
Over 2 years	...	...	...	...	20	23	19	27
TOTAL	...	...	...	...	75	67	48	56
Total attendances	...	...	...	...	12,969	10,403	7,335	10,653

Condition on Admission.

Good	...	...	...	...	9	13	24	13
Fairly good	...	...	...	...	12	23	18	26
Poor	...	...	...	...	54	31	6	17
TOTAL	...	...	...	...	75	67	48	56

Number of Cases of Illness contracted during the year.

Infectious	...	...	...	...	10	9	9	11
Other illness	...	...	...	...	2	4	8	9
TOTAL	...	...	...	...	12	13	17	20

MILK DEPOTS.

The milk which is supplied from these centres and depots consisted entirely of Grade A Tuberculin-tested milk.

There were 5,224 persons on the books at the beginning of the year, 14,110 admitted during the year, and 3,581 who had milk previously and have been re-admitted, making a total of 22,915. The supply of milk is given on the presentation by the applicant of a note from a doctor, and in a few instances it was allowed on production of written requests from midwives. The following is a statement of cases admitted during the year:—

Centres.	Ante-Natal.	Nursing Mothers.	Infants.		Liverpool Child Welfare Association.	Totals.
			Under 1 year of age.	1 Year and under 2 Years of Age.		
Netherfield Road ...	680	989	484	126	544	2,823
Earle Road ...	55	455	351	46	77	984
Park Road ...	314	552	327	77	424	1,694
Boaler Street ...	164	514	418	67	170	1,333
Holly Street ...	326	739	357	169	382	1,973
Rathbone Road ...	33	299	310	31	72	745
Mill Street ...	56	196	137	33	136	558
Scarisbrick Road ...	244	435	239	58	307	1,283
Agents ...	58	15	333	305	2,006	2,717
	1,930	4,194	2,956	912	4,118	14,110

The total quantity of milk supplied during the year was 140,159 gallons, and 351,428 bottles were filled. The amount of dried milk supplied was 210,466 lbs.

Total cases on books, January 1st, 1934	...	...	5,224
„ „ admitted during the year	...	...	14,110
„ „ re-admitted during the year	...	...	3,581
			<hr/>
Total supplied during 1934	...	...	22,915
			<hr/>
Remaining on the books at the end of the year	...		6,097
			<hr/>
Quarterly Average—January, February, March	...		5,695
„ „ April, May, June	...	...	5,618
„ „ July, August, September	...		4,499
„ „ October, November, December	...		6,057

The highest number supplied with milk at one time was 6,263 during the week ended December 14th.

Since the initiation of the scheme in 1901 down to the end of the year 1934, the number of persons supplied with milk has reached a total of 191,824.

On one day in each week mothers attend at the centre in their district for the purpose of reviewing family circumstances, when the supply of milk is continued at the same price, unless the circumstances are improved, when the charge is increased, or if the circumstances are worse than when last reviewed, the charge is lowered.

The number of attendances of persons at the centres during the year for advice, and payment for milk, etc., was 36,062.

The usual grant is for a period of 4 or 6 weeks, in exceptional cases 2 or 8 weeks.

The number of visits paid during the year to children in their own homes by the health visitors attached to the centres in order to see that the children were being properly fed and the milk properly used, was 4,903. From time to time information concerning cases is received from the district health visitors and from clinics.

TUBERCULOSIS

TUBERCULOSIS.

Notification.

Public Health (Tuberculosis) Regulations, 1930.

SUMMARY OF NOTIFICATIONS DURING THE PERIOD FROM 7ST JANUARY, 1934,
TO 31ST DECEMBER, 1934 :—

TABLE I.

Age-periods.	Notifications on Schedule A.												Total Notifica- tions on Form A. (includ- ing dupli- cates.)
	Number of Primary Notifications of New Cases of Tuberculosis.												
	0-	1-	5-	10-	15-	20-	25-	35-	45-	55-	65-	Total Primary Notifica- tions.	
Pulmonary—													
Males	1	30	68	51	97	105	230	168	182	119	25	1,076	1,392
Females	3	22	54	50	108	167	204	97	63	40	19	827	1,053
Non-Pulmonary—													
Males	4	61	81	51	28	19	24	17	5	4	1	295	407
Females	6	36	52	50	39	36	41	14	7	3	6	290	376

Practically all cases notified under the above regulations are examined by the Tuberculosis Officer, the only exceptions being those cases in which, for some specific reason, exemption from examination is requested either by the patient or the medical practitioner concerned.

The Notification and Dispensary Registers.

In Table II is shown the number of cases on the notification and dispensary registers at the end of the year, the difference 3,768 between the figures for the respective registers representing the number of patients who, for various reasons, discontinued public treatment under this authority before reaching the “cured” stage. A few notified cases are also included in which the patients have refused to make use of the treatment facilities which are available.

TABLE II

	Pulmonary Tuberculosis.		Non-Pulmonary Tuberculosis.		Totals.
	Males.	Females.	Males.	Females.	
Number of cases on the Notification Register ...	3,646	2,766	1,453	1,484	9,349
Number of established cases on the Dispensary Register	2,272	1,616	868	825	5,581
Difference	1,374	1,150	585	659	3,768

In Table III is given an analysis of the 3,768 persons whose names are on the notification register but are not on the dispensary register, according to the latest information concerning them.

TABLE III

Whereabouts Known.	Pulmonary Tuberculosis.						Non-Pulmonary Tuberculosis.						Totals.
	Males.			Females.			Males.			Females.			
	State of the Disease.						State of the Disease.						
	Arrested.	Quiescent.	Active.	Arrested.	Quiescent.	Active.	Arrested.	Quiescent.	Active.	Arrested.	Quiescent.	Active.	
Totals	168	459	747	181	418	551	121	195	269	136	260	263	3,768

Tuberculosis Clinics and Dispensary System.

The three Tuberculosis Clinics continue to be actively employed, the volume of work dealt with by the Tuberculosis Department having increased during recent years.

A statistical summary of the work of the Tuberculosis Clinics, so far as all cases on the dispensary registers are concerned, is given in Table IV, and in addition there are included a few statistics of a general nature.

TABLE IV.

DIAGNOSIS.	PULMONARY.				NON-PULMONARY				TOTAL.				GRAND TOTAL	
	Adults.		Children		Adults.		Children		Adults.		Children.			
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		
A.—NEW CASES examined during the year (excluding contacts):														
(a) Definitely tuberculous ...	610	402	59	68	74	79	151	126	684	481	210	194	1,566	
(b) Diagnosis not completed ...	—	—	—	—	—	—	—	—	16	17	14	18	6	
(c) Non-tuberculous ...	—	—	—	—	—	—	—	—	477	505	404	304	1,690	
B.—CONTACTS examined during the year :—														
(a) Definitely tuberculous ...	1	2	12	7	—	1	4	—	1	3	16	7	2	
(b) Diagnosis not completed ...	—	—	—	—	—	—	—	—	—	—	—	—	—	
(c) Non-tuberculous ...	—	—	—	—	—	—	—	—	28	139	339	303	80	
C.—CASES written off the Dispensary Register as :—														
(a) Recovered ...	94	92	22	25	18	22	48	29	112	114	70	54	38	
(b) Non-tuberculous (including any such cases previously diagnosed and entered on the Dispensary Register as tuberculous) ...	—	—	—	—	—	—	—	—	508	645	747	617	2,500	
D.—NUMBER OF CASES on Dispensary Register on Dec. 31 :														
(a) Definitely tuberculous ...	1,829	1,243	443	373	271	359	597	466	2,100	1,602	1,040	839	5,500	
(b) Diagnosis not completed ...	—	—	—	—	—	—	—	—	16	17	14	18		

1. Number of cases on Dispensary Register on January 1st ...	6,292	2. Number of cases transferred from other areas and cases returned after discharge under Head 3 in previous years ...	
3. Number of cases transferred to other areas, cases not desiring further assistance under the scheme, and cases "lost sight of" ...	1,338	4. Cases written off during the year as Dead (all causes) ...	
5. Number of attendances at the Dispensary (including Contacts) ...	19,237	6. Number of Insured Persons under Domiciliary Treatment on the 31st December	
7. Number of consultations with medical practitioners:— (a) Personal ... (b) Other ...	71 4,309*	8. Number of visits by Tuberculosis Officers to homes (including personal consultations) ...	1
9. Number of visits by Nurses or Health Visitors to homes for Dispensary purposes ...	38,638	10. Number of:— (a) Specimens of sputum, etc., examined (b) X-ray examinations made in connexion with Dispensary work. ...	4
11. Number of "Recovered" cases restored to Dispensary Register, and included in A (a) and A (b) above...	9	12. Number of "T.B. plus" cases on Dispensary Register on December 31st ...	1

* In addition to 4,380 consultations, 2,232 reports concerning patients were sent to medical practitioners.

General Remarks.

The city death rates for the year 1934 for pulmonary and non-pulmonary tuberculosis are 1.00 and 0.15 per 1,000 respectively. These rates have shown but a very slow decline during the past decade and are high when compared with most other areas. Unfortunately there still continues to be a large incidence of tuberculosis in the city, and though modern methods of treatment and investigation, as carried out in the Sanatoria and Clinics, have had a considerable effect in reducing the actual death roll, the day is still far off when that roll shall have assumed the negligible dimensions aimed at. It must, also be remembered that the census returns 1911-1931 indicate a progressive decrease in the number of people alive under 35 years of age with an almost corresponding increase in the number of people alive at 60 years or over. In other words, that age group of the population which is most susceptible to tuberculosis is tending to diminish, a factor which must be reflected in the death rate.

RADIOLOGY. Very considerable use is being made of the X-ray plant in connection with the diagnosis and treatment of tuberculosis at the clinics, 878 cases having been radiographed during the year. This work is, of course, additional to that carried out by the radiologist in connection with the treatment and investigation of cases in the sanatoria which has entailed the taking of 2,890 radiographs in addition to a very large number of "screenings."

LIGHT THERAPY. The arrangements which exist for the treatment at Belmont Road Hospital of certain tuberculous lesions, particularly lupus, by ultra violet irradiation have proved of great value in the case of a number of extern patients, who have together received a total of 3,648 treatments with beneficial results. A large number of intern patients have also received similar treatment at the sanatoria, where over 8,000 exposures have been carried out.

MANTOUX REACTION. This intradermal test has been applied in about 500 cases at the Tuberculosis Clinics, and where negative, has been of considerable assistance in excluding non-tuberculous lesions, particularly when supported by a negative radiograph. Children under two years of age exhibiting a positive reaction, despite a total absence of

clinical evidence of disease are kept under close observation by the tuberculosis officers.

CONTACTS.—During the year the tuberculosis officers examined 836 persons who are known to have been in contact with infectious cases of pulmonary tuberculosis and found evidence of disease in 27, or 3·2 per cent.

The supervision of contacts is one of the most important functions of any scheme which has for its object the control of tuberculosis, and it is one which demands considerable acuity of both observation and diagnosis if it is to be successful. In this connection it may be observed that in investigating the contacts of any one particular patient search is not only made for those whom that patient may have infected but also, and most important, for the original source of infection. The investigation thus presents two problems:—

- (1) Whom did the patient infect?
- (2) Who has infected the patient?

The answer to the latter question is sometimes illuminating. An analysis of 5,014 new cases of pulmonary tuberculosis would appear to indicate that approximately 20 per cent. of such patients give a history of contact with another case of pulmonary tuberculosis.

The Condition of Patients known to the Tuberculosis Officers.

A statistical return showing in summary form the condition of all patients whose case records are in the possession of the tuberculosis clinics at the end of the year, arranged according to the years in which the patients first came under public medical treatment, and according to their classification, is given in the two tables, Table V relating to pulmonary cases, and Table VI to non-pulmonary cases.

It is noteworthy that of 1,174 new pulmonary cases whose names were entered on the dispensary register during the year, 744 (63·3 per cent.) were in a very advanced stage of disease, and by the end of the year, 310 (26·4 per cent.) of the new cases arising during that year were deceased. It is regrettable that such a large percentage of cases only come to the notice of the tuberculosis officer when the disease is very advanced.

TABLE V—PULMONARY TUBERCULOSIS.

(a) The condition at the end of 1934 of all patients remaining on the Dispensary Register; and (b) the reasons for the removal of all cases written off the Register. The Table is arranged according to the years in which the patients were first entered on the Dispensary Register as definite cases of pulmonary tuberculosis, and their classification at that time.

Condition at the time of the last record made during the year to which the return relates.				Previous to 1926.					1926.					1927.					1928.					1929.					1930.					1931.					1932.					1933.					1934.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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					Group 1	Group 2	Group 3	Total Class T.B. PLUS.		Group 1	Group 2	Group 3	Total Class T.B. PLUS.		Group 1	Group 2	Group 3	Total Class T.B. PLUS.		Group 1	Group 2	Group 3	Total Class T.B. PLUS.		Group 1	Group 2	Group 3	Total Class T.B. PLUS.		Group 1	Group 2	Group 3	Total Class T.B. PLUS.		Group 1	Group 2	Group 3	Total Class T.B. PLUS.		Group 1	Group 2	Group 3	Total Class T.B. PLUS.		Group 1	Group 2	Group 3	Total Class T.B. PLUS.	Group 1	Group 2	Group 3	Total Class T.B. PLUS.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
(a) Remaining on Dispensary Register on 31st December.	Disease Arrested.	Adults	M.	45	24	13	1	38	7	4	4	17	2	2	...	4	16	2	3	...	5	22	1	5	...	6	25	2	3	...	5	22	...	4	...	4	7

TABLE VI—NON-PULMONARY TUBERCULOSIS.

(a) The condition at the end of 1934 of all patients remaining on the Dispensary Register; and (b) the reasons for the removal of all cases written off the Register.

Condition at the time of the last record made during the year to which the return relates.				Previous to 1926.					1926.					1927.					1928.					1929.					1930.					1931.					1932.					1933.					1934.						
				Bones and Joints	Abdominal	Other Organs	Peripheral Glands	TOTAL	Bones and Joints	Abdominal	Other Organs	Peripheral Glands	TOTAL	Bones and Joints	Abdominal	Other Organs	Peripheral Glands	TOTAL	Bones and Joints	Abdominal	Other Organs	Peripheral Glands	TOTAL	Bones and Joints	Abdominal	Other Organs	Peripheral Glands	TOTAL	Bones and Joints	Abdominal	Other Organs	Peripheral Glands	TOTAL	Bones and Joints	Abdominal	Other Organs	Peripheral Glands	TOTAL	Bones and Joints	Abdominal	Other Organs	Peripheral Glands	TOTAL												
(a) Remaining on Dispensary Register on 31st December.	Disease Arrested.	Adults	M.	3	...	1	...	4	2	2	...	1	1	2	4	1	5	1	2	3	4	2	...	2	8	3	4	3	2	12	8	3	3	6	20	4	1	1	3	9	1	3	4
			F.	4	4	8	1	3	4	2	2	1	4	5	5	...	1	3	9	4	3	...	6	13	2	3	1	7	13	3	9	2	10	24	5	2	1	10	18	1	1		
		Children	8	8	...	6	22	7	3	1	3	14	7	4	...	9	20	8	6	1	14	37	14	13	2	26	55	8	19	2	30	59	14	32	2	48	96	4	14	...	32	50	...	2	...	4	6								
	Disease not Arrested.	Adults	M.	12	1	13	2	1	2	...	5	4	1	1	...	6	6	...	1	...	7	6	1	...	2	9	11	...	1	4	16	3	...	4	9	16	18	7	10	17	52				
			F.	7	...	2	10	19	2	2	4	6	1	...	1	8	4	2	2	2	10	...	1	3	1	5	4	2	1	4	11	6	...	5	7	18	5	1	2	9	17	11	5	4	7	27	14	5	8	34	61		
	Children	12	2	5	10	29	4	...	1	2	7	7	1	...	2	10	9	1	2	3	15	8	5	2	5	20	12	6	...	7	25	9	4	3	12	28	37	14	6	20	77	14	34	4	39	91	49	47	4	119	219				
Condition not ascertained during the year				24	15	2	45	86	4	2	6	8	2	...	2	12	2	2	...	5	9	5	3	1	5	14	10	2	2	8	22	16	8	...	10	34	30	11	2	15	58	36	16	6	20	78		
Total on Dispensary Register at 31st December				70	25	10	76	181	18	3	2	14	37	30	9	...	15	54	30	12	7	24	73	38	16	10	30	94	54	28	6	53	141	50	39	14	70	173	108	70	18	112	308	77	72	20	120	289	81	61	23	178	343		
Transferred to Pulmonary				19	15	4	39	77	7	3	2	12	24	3	...	4	4	11	3	4	1	3	11	2	3	5	2	2	2	6	12	4	...	1	5	10	4	3	1	2	10	2	4	...	3	9		
(b) Not now on Dispensary Register and reasons for removal therefrom.	Discharged as Recovered.	Adults	M.	26	3	6	10	45	1	...	2	1	4	1	1	3	1	3	1	8	1	1	...	1	...	2	3	
			F.	20	7	5	24	56	2	1	1	6	10	1	1	2	4	8	3	3	1	3	4	...	2	...	3	5	1	1	2
		Children	127	103	12	143	385	41	28	4	28	101	15	21	4	26	66	13	14	2	21	50	5	7	1	19	32	6	6	1	9	22	1	2	1	3	7
	Lost sight of, or otherwise removed from Dispensary Register.				459	312	106	785	1,662	63	61	19	133	276	62	45	30	105	242	48	35	14	109	206	46	47	17	104	214	47	41	14	81	183	53	38	19	86	196	35	27	16	75	153	20	18	9	61	108	8	3	3	31	45	
	Dead	Adults	M.	54	15	16	12	97	5	1	1	3	10	10	2	1	2	15	8	1	4	...	13	6	2	8	2	18	5	1	2	3	11	7	1	2	...	10	5	2	2	...	9	3	2	3	2	10	2	2	2	...	6		
			F.	38	14	11	9	72	3	5	4	1	13	5	1	1	3	10	4	2	2	1	9	6	5	3	3	17	5	5	2	...	12	6	4	2	1	13	6	1	2	1	10	4	3	1	1	9	3	...	3		
Children	58	83	65	21	227	10	22	13	1	46	10	17	16	2	45	14	18	17	1	50	10	18	17	6	51	9	8	20	4	41	5	11	24	1	41	8	11	53	...	72	5	10	51	2	68	...	2	38	...	40					
Total written off Dispensary Register				782	537	221	1,004	2,544	125	118	44	173	460	104	87	54	142	387	90	71	42	136	339	74	79	46	138	337	72	64	39	102	277	73	56	48	93	270	54	41	73	76	244	32	33	64	66	195	10	7	46	31	94		
GRAND TOTALS of (a) and (b) (excluding those transferred to Pulmonary).				852	562	231	1,080	2,725	143	121	46	187	497	134	96	54	157	441	120	83	49	160	412	112	95	56	168	431	126	92	45	155	418	123	95	62	163	443	162	111	91	188	552	109	105	84	186	484	91	68	69	209	437		

In Table VII is given a statistical analysis of the patients under dispensary treatment at the end of the year.

TABLE VII.

PATIENTS UNDER DISPENSARY TREATMENT AT THE END OF THE YEAR.

		Pulmonary.	Non-pulmonary.	Totals.	
INSURED PERSONS	Males	4	—	4	} 4
	Females	—	—	—	
NON-INSURED PERSONS	Male Adults	19	7	26	} 212
	Female Adults	28	17	45	
	Male Children*	28	41	69	
	Female Children*	38	34	72	
TOTALS ...	... ..	117	99	216	

* Under 15 years of age.

In Table VIII is given a statistical summary of the patients who, not needing active treatment, were under dispensary supervision at the end of the year.

TABLE VIII.

PATIENTS NOT NEEDING TREATMENT WHO WERE UNDER DISPENSARY SUPERVISION AT THE END OF THE YEAR.

		Pulmonary.	Non-pulmonary.	Totals.	
INSURED PERSONS	Males	384	72	456	} 638
	Females	120	62	182	
NON-INSURED PERSONS	Male Adults	190	70	260	} 2115
	Female Adults	324	173	497	
	Male Children*	298	440	738	
	Female Children*	279	341	620	
TOTALS ...	... ..	1595	1158	2753	

* Under 15 years of age.

Home Nursing.

The domiciliary nursing of both pulmonary and non-pulmonary cases continues to be carried out by the Liverpool Queen Victoria District Nursing Association in accordance with the existing agreement. During the year, 198 pulmonary and 95 non-pulmonary cases were nursed in their homes, and to these cases 12,452 visits were paid.

Domiciliary Treatment.

This form of treatment is arranged where indicated and close co-operation obtains between the medical practitioners and the tuberculosis officers. At the end of the year, 1,558 patients remained under domiciliary treatment of whom 912 were persons insured under the National Health Insurance Act, and in receipt of treatment from their panel doctor and 646 were not insured and were under the treatment of doctors of their own choice. The domiciliary reports received relating to insured persons numbered 3,683, and those relating to non-insured persons numbered 3,083. Table IX shows the position at the end of the year.

TABLE IX.

PATIENTS UNDER DOMICILIARY TREATMENT AT THE END OF THE YEAR.

		Pulmonary.	Non-pulmonary.	Totals.
INSURED PERSONS	Males	628	43	671
	Females	217	24	241
NON-INSURED PERSONS	Male Adults ...	173	21	194
	Female Adults ...	334	40	374
	Male Children*	22	24	46
	Female Children*	16	16	32
TOTALS ...	... ..	1390	168	1558

* Under 15 years of age.

Co-operation and Co-ordination.

Close co-operation continues between the Tuberculosis Officers and the School Medical and Maternity and Child Welfare Departments with a view to securing early diagnosis and treatment for the tuberculous child whilst such voluntary social services as the Child Welfare Association, Personal Service Society and the Roll of Honour Fund continue to render most valuable assistance in this and other directions.

During the year, 3,719 reports were rendered by the Tuberculosis Officers in respect of school children, and as a result of the co-operation of the School Medical Department arrangements now exist whereby those secondary deformities, which so frequently form the most distressing and crippling features of the healed non-pulmonary tuberculous lesion, are treated by the Surgeon Specialist at the Orthopaedic Clinics.

A large number of cases continue to be referred to the Tuberculosis Officer by the Divisional Medical Officer (Ministry of Health), the Deputy-Commissioner of Medical Service (Ministry of Pensions), and the Chief Medical Officer (Silicosis Scheme 1931) to whom appropriate reports are rendered.

Sanatoria.

TABLE X.

FAZAKERLEY SANATORIUM. Beds, 301.

NORMAL ALLOCATION OF BEDS.

	Observation.	Pulmonary Tuberculosis.		Non-pulmonary Tuberculosis.		TOTAL.
		"Sanatorium" Cases.	"Advanced" Cases.	Disease of Bones and Joints.	Other Conditions	
Adult Males	2	32	60	45	15	154
Adult Females	1	20	58	30	10	119
Children under 15...	1	—	—	20	7	28
TOTAL	4	52	118	95	32	301

TABLE XI.

BROADGREEN SANATORIUM. Beds, 340.
NORMAL ALLOCATION OF BEDS.

	Observation.	Pulmonary Tuberculosis.		Non-pulmonary Tuberculosis.		TOTAL.
		"Sanatorium" Cases.	"Advanced" Cases.	Disease of Bones and Joints.	Other Conditions	
Adult Males	2	94	80	—	—	176
Adult Females	2	62	60	—	—	124
Children under 15...	—	26	14	—	—	40
TOTAL	4	182	154	—	—	340

Dental Treatment.

In order that patients may derive full benefit from residential treatment, a certain amount of dental attention is, in many cases, necessary, and during 1934 the following dental operations were carried out at Fazakerley and Broadgreen Sanatoria:—

Extractions under anæsthesia	...	...	451
Fillings and scalings	...	...	22
Miscellaneous	...	...	142

Special Treatment.

Summary of other special forms of treatment carried out at the Sanatoria during the year:—

Artificial Pneumothorax (New inductions)	...	132
Cases treated by Gold Injections	...	207
Thoracic Operations (including Thoracoplasty, Phrenicectomy and Apicolysis)	...	37
Laryngological Operations	...	25

TABLE XII.

ALDER HEY HOSPITAL. Tuberculosis Beds, 90.

This Table shows the cases dealt with during the period from 1st January, 1934 to 31st December, 1934:—

	In Alder Hey, 31.12.33.	Subsequent Admissions.	Discharged.	Deaths.	Remaining, 31.12.34.
Pulmonary	10	66	60	12	4
Non-Pulmonary	73	231	222	29	53
TOTALS	83	297	282	41	57

The total accommodation in approved institutions made use of for patients suffering from tuberculosis was 940 beds, allocated in the following manner :—

TABLE XIII.

TOTAL NUMBER OF BEDS NORMALLY AVAILABLE FOR PATIENTS.

	Observation.	Pulmonary Tuberculosis.		Non-pulmonary Tuberculosis.		TOTAL.
		"Sanatorium" Cases.	"Advanced" Cases.	Disease of Bones and Joints.	Other Conditions	
Adult Males	4	140	280	30	10	464
Adult Females	3	95	165	20	15	298
Children under 15 ...	3	45	10	90	30	178
TOTAL	10	280	455	140	55	940

The extent of residential treatment afforded during the year is shown in Table XIV.

TABLE XIV.

		In Institutions on Jan. 1st. (1)	Admitted during the year. (2)	Discharged during the year. (3)	Died in the Institutions. (4)	In Institutions on Dec. 31st. (5)
Number of doubtfully tuberculous cases admitted for observation	Adult males	1	28	27	—	2
	Adult females	2	27	29	—	—
	Children	2	32	32	—	2
	Total	5	87	88	—	4
Number of patients suffering from pulmonary tuberculosis	Adult males	331	480	343	123	345
	Adult females	207	308	241	72	202
	Children	60	121	104	22	55
	Total	598	909	688	217	602
Number of patients suffering from non-pulmonary tuberculosis	Adult males	42	77	64	9	46
	Adult females	31	100	88	3	40
	Children	145	318	330	37	96
	Total	218	495	482	49	182
GRAND TOTALS		821	1,491	1,258	266	788

A return showing the immediate results of treatment of patients discharged from residential institutions during the year is given in Table XV.

TABLE XV.

Classification on Admission to the Institution.		Condition at time of Discharge.	DURATION OF RESIDENTIAL TREATMENT												TOTALS.			G T
			*Under 3 months.			3-6 months.			6-12 months.			More than 12 months.						
			M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	
PULMONARY TUBERCULOSIS.	Class A.	Quiescent ...	11	6	1	2	10	3	7	8	10	4	3	12	24	27	26	
		Not Quiescent ...	7	5	14	4	4	4	3	5	3	3	4	—	17	18	21	
		Died in Institution	1	1	3	1	—	2	1	—	—	2	—	—	5	1	5	
	Class B. Group 1.	Quiescent ...	—	2	—	2	3	—	3	2	—	1	—	—	6	7	—	
		Not Quiescent ...	1	—	1	4	1	—	2	3	—	2	—	—	9	4	1	
		Died in Institution	—	—	—	—	—	—	—	—	—	1	—	—	1	—	—	
	Class B. Group 2.	Quiescent ...	4	—	—	9	8	—	10	6	—	12	6	1	35	20	1	
		Not Quiescent ...	42	32	1	43	20	—	55	32	1	23	17	4	163	101	6	
		Died in Institution	2	1	—	1	1	—	—	2	—	3	—	—	6	4	—	
	Class B. Group 3.	Quiescent ...	1	—	—	—	1	1	1	1	—	—	—	—	2	2	1	
		Not Quiescent ...	11	12	—	8	12	—	11	7	—	7	7	—	37	38	—	
		Died in Institution	31	16	2	21	15	1	15	10	2	23	13	3	90	54	8	
	TOTALS (Pulmonary)...		111	75	22	95	75	11	108	76	16	81	50	20	395	276	69	
	NON-PULMONARY TUBERCULOSIS.	Bones and Joints.	Quiescent ...	3	4	5	1	2	9	3	2	11	3	3	36	10	11	71
			Not Quiescent ...	2	1	6	—	—	6	1	3	1	3	1	5	6	5	18
Died in Institution			—	—	—	—	—	—	2	2	1	1	1	—	3	3	1	
Abdominal.		Quiescent ...	—	—	8	1	—	5	—	—	4	—	—	5	1	—	22	
		Not Quiescent ...	2	3	6	—	—	—	—	—	—	—	—	1	2	3	7	
		Died in Institution	—	1	1	—	—	—	—	1	—	—	—	2	—	2	3	
Other Organs.		Quiescent ...	1	2	1	—	—	3	—	1	—	1	—	—	2	3	4	
		Not Quiescent ...	1	3	1	—	—	—	—	—	—	—	—	—	1	3	1	
		Died in Institution	1	—	1	1	—	—	—	—	—	1	—	—	3	—	1	
Peripheral Glands.		Quiescent ...	5	3	21	2	4	8	1	2	3	1	—	1	9	9	33	
		Not Quiescent ...	1	1	6	—	2	—	—	—	2	—	—	—	1	3	8	
		Died in Institution	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
TOTALS (Non-Pulmonary)		16	18	66	5	8	31	7	11	22	10	5	50	38	42	169		

*NOTE :—Patients whose stay in residential institutions has not exceeded 28 days are no longer to included in this table.

TABLE XV.—*continued.*

		PULMONARY TUBERCULOSIS						NON-PULM. TUBERCULOSIS						TOTALS			GRAND TOTAL.
		Under 4 wks.			Over 4 wks.			Under 4 wks.			Over 4 wks.			M.	F.	Ch.	
		M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	
Tuberculosis	...	—	2	—	—	1	—	—	—	2	—	—	1	—	3	3	6
Non-Tuberculosis		21	13	6	6	11	4	—	2	14	—	—	5	27	26	29	82
Doubtful...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		21	15	6	6	12	4	—	2	16	—	—	6	27	29	32	88

**Extent of Residential Treatment provided during the year 1934 in
Appropriated Institutions not yet approved by the Ministry of
Health or in Approved Institutions not yet appropriated
by the City Council.**

				In Institution on Jan. 1st.	Admitted during the year.	Discharged during the year.	Died in the Institution.	In Institution on Dec. 31st.	
Number of patients suffering from Pulmonary Tuberculosis admitted for treatment.				Adult Males.	75	457	291	155	86
				Adult Females	17	186	127	58	18
				Children*	101	88	108	1	80
				Total	193	731	526	214	184
Number of patients suffering from Non-Pulmonary Tuberculosis admitted for treatment				Adult Males	19	39	41	5	12
				Adult Females	14	51	50	12	3
				Children*	81	80	86	4	71
				Total	114	170	177	21	86
Grand Total				307	901	703	235	270	

*Under 15 years of Age.

CLEAVER SANATORIUM. Beds 200.

This Sanatorium is proving particularly useful for the treatment of tuberculous children, and is relieving the pressure on other institutions. Both the pulmonary and non-pulmonary forms of disease are admitted though the latter are generally in a more or less quiescent stage.

After-Care.

The after-care arrangements in force are as follows :—

- (1) The periodic examination by the Tuberculosis Officers of all cases under public medical treatment.
- (2) Visits paid to patients in their homes by the nurses attached to the Tuberculosis Clinics, and by the health visitors and sanitary inspectors employed by the Health Committee.
- (3) Visits paid to patients in their homes by the nurses of the Queen Victoria District Nursing Association.
- (4) The reference of cases presenting peculiar difficulties to voluntary associations, such as the Child Welfare Association, the Personal Service Society, etc.

During the year tuberculosis nurses attached to the clinics made 14,072 domiciliary visits, whilst the health visitors and sanitary inspectors made 11,720 such visits. All these visits are the subject of report to the Tuberculosis Officer concerned. The domiciliary visits of the nurses of the Queen Victoria District Nursing Association, to the number of 12,452 have already been referred to.

Non-Pulmonary Tuberculosis.

Enquiries were made by the Public Health Department into 626 new cases of non-pulmonary tuberculosis arising during 1934, with the following results :—

TABLE XVI.

Districts.	Cases.	Rate per 10,000 of population.
Exchange	91	12·5
Abercromby	32	7·7
Everton	75	6·9
Kirkdale	51	8·0
Edge Hill	49	6·1
Toxteth	88	6·7
Walton	58	6·5
West Derby	83	7·9
Wavertree	41	4·0
Fazakerley	55	9·3
Woolton	3	3·9
Whole City ...	626	7·2

Notification and Deaths.

During the year 81 persons within the city died from tuberculosis without notification having been effected prior to death. The result of enquiry into the reasons for such failure to notify are summarized in Table XVII, and it is satisfactory to note that in the case of pulmonary disease, where notification is of greatest importance, only 0·5 per cent. of cases were overlooked by medical practitioners.

TABLE XVII.

Disease.	Number of persons who died within the city.	Number of city deaths not notified before death.	Reasons for Non-notification.			
			Diagnosis made at a post- mortem examina- tion. *	Diagnosis delayed owing to clinical difficulties.	The doctor thought that the case had been notified previously by another medical practitioner.	Noti- fication forgotten.
Pulmonary tuberculosis	857	40 4·6%	15 1·7%	13	7	5 ·5%
Non-pulmonary tuberculosis	128	41 32%	6 4·6%	29	0	6 4·6%

* Includes Coroner's cases.

Every endeavour is made to encourage early notification of cases of tuberculosis, and it is satisfactory to note the decrease in the number of such as have not been notified prior to death as compared with the average figure for previous years (Table XVIII).

TABLE XVIII.

YEAR.	Total Number of Deaths Investi- gated. *	Number of Deaths in Cases not Notified or otherwise referred. *	Notifications or other References prior to Death within the periods indicated in each column.					
			Within 2 weeks of Death.	Within 2-4 weeks of Death.	Within 1-3 months of Death.	Within 3-6 months of Death.	Within 6-12 months of Death.	Over 12 months prior to Death.
Average for 7 years (1923-1929) ...	1,202	233	91	69	163	120	123	400
1932... ..	1,137	121	132	52	144	117	109	427
1933... ..	1,157	115	127	55	109	95	126	494
1934... ..	991	99	100	60	131	96	116	389

* Includes inward Transferable Deaths returned by the Registrar General, but such deaths are not included in the other columns of the table, which only refer to notifications by doctors in the Liverpool area.

Additional to the deaths which took place within the city boundary, there were 38 deaths from pulmonary tuberculosis taking place outside Liverpool but transferred to Liverpool by the Registrar General. Of these cases 16 had not been notified in Liverpool, but may have been notified elsewhere. Similarly, 4 deaths from non-pulmonary tuberculosis were transferred by the Registrar General, of which 2 cases had not been previously notified in Liverpool.

Deaths from Tuberculosis.

The number of deaths from pulmonary tuberculosis in Liverpool from 1871 to 1933, together with the number of new cases notified, and the death rates which prevailed in England and Wales are given in Table XIX.

CITY OF LIVERPOOL.

PULMONARY TUBERCULOSIS DEATH RATES PER 100,000 POPULATION

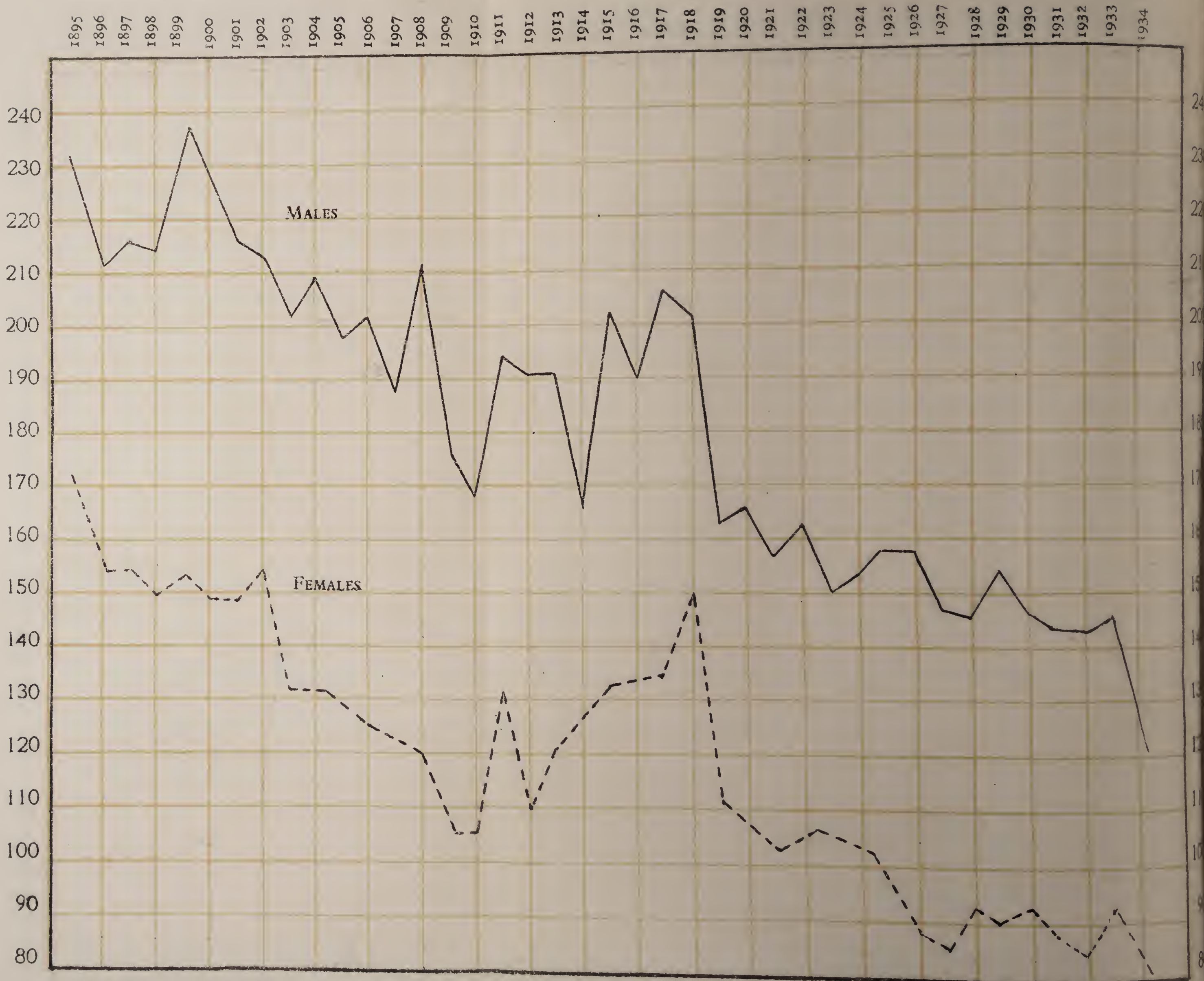


TABLE XIX.

DEATHS FROM PULMONARY TUBERCULOSIS.

Years.	Cases notified.	Number of deaths.	Death rate per 1,000 Liverpool.	Death rate per 1,000 England and Wales.	
1871 to 1880	Average yearly figures	Nil	1,506	2·90	2·13
1881 to 1890		Nil	1,260	2·35	1·73
1891 to 1900		Nil	1,171	1·92	1·39
1901 to 1910		2,216*	1,233	1·68	1·16
1911 to 1920		2,812*	1,214	1·55	1·08
1921 to 1930		2,356	1,042	1·23	0·81
1931.....	2,358	989	1·15	0·74	
1932.....	2,005	969	1·12	0·69	
1933.....	2,279	1,009	1·16	0·69	
1934.....	1,903	867	1·00	—	

In Table XX a similar return is made in respect of deaths from non-pulmonary tuberculosis, etc.

TABLE XX.

DEATHS FROM NON-PULMONARY TUBERCULOSIS.

Years.	Cases notified.	Number of deaths.	Death rate per 1,000 Liverpool.	Death rate per 1,000 England and Wales.	
1871 to 1880	Average yearly figures	Nil	481	·90	·75
1881 to 1890		Nil	527	·98	·70
1891 to 1900		Nil	500	·82	·63
1901 to 1910		100*	416	·56	·50
1911 to 1920		716*	349	·45	·35
1921 to 1930		640	234	·27	·20
1931	719	164	·19	·15	
1932.....	672	170	·19	·15	
1933.....	654	148	·17	·13	
1934.....	585	129	·15	—	

* Voluntary notification from 1901 to 1911.

The age and sex distribution of deaths from both pulmonary and non-pulmonary tuberculosis are given in Table XXI.

TABLE XXI.

AGE PERIODS OF DEATHS FROM TUBERCULOSIS DURING 1934.

Age Periods.	PULMONARY.		NON-PULMONARY.	
	Males.	Females.	Males.	Females.
0—1	1	2	7	6
1—5	5	5	18	18
5—10	3	2	4	7
10—15	5	6	4	9
15—20	24	50	7	10
20—25	68	72	9	3
25—35	89	99	2	7
35—45	104	57	4	4
45—55	109	38	3	5
55—65	66	24	1	—
65 and upwards	25	13	—	1
TOTALS ...	499	368	59	70

The distribution of deaths from pulmonary tuberculosis according to the districts in which the patients resided and according to the quarter of the year during which death took place is given in Table XXII.

TABLE XXII.

DEATHS FROM PULMONARY TUBERCULOSIS IN DISTRICTS.

DISTRICTS.	QUARTERS.								YEAR 1934		
	March.		June.		Sept.		Dec.		Totals.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.&F.
Exchange	24	12	20	21	10	11	19	12	73	56	129
Abercromby... ..	8	4	12	5	12	3	4	4	36	16	52
Everton... ..	22	11	16	18	14	12	13	7	65	48	113
Kirkdale	10	7	16	15	14	12	11	6	51	40	91
Edge Hill	9	11	15	7	4	8	13	9	41	35	76
Toxteth... ..	21	18	25	13	22	9	12	9	80	49	129
Walton	19	14	10	8	8	10	10	5	47	37	84
West Derby... ..	14	8	5	6	7	8	10	11	36	33	69
Wavertree	7	7	14	7	7	6	6	7	34	27	61
Fazakerley	13	10	9	7	5	4	5	6	32	27	59
Woolton	2	—	1	—	1	—	—	—	4	—	4
City	149	102	143	107	104	83	103	76	499	368	867
	251		250		187		179		57·6	42·4	
	28·9%		28·8%		21·6%		20·7%		%	%	

N.B.—Deaths in public institutions are transferred to the districts from which the patients came.

A similar return in respect of deaths from non-pulmonary tuberculosis is given in Table XXIII.

TABLE XXIII.

DEATHS FROM NON-PULMONARY TUBERCULOSIS IN DISTRICTS.

DISTRICTS.					Tubercular Peritonitis.		Tubercular Meningitis.		Other forms of Tuberculosis.		YEAR 1934. Totals		
					M.	F.	M.	F.	M.	F.	M.	F.	M.&F.
Exchange	...	...	...	...	1	1	3	5	1	3	5	9	14
Abercromby	...	...	...	...	1	—	2	—	2	3	5	3	8
Everton...	...	...	...	...	—	3	5	6	1	2	6	11	17
Kirkdale	...	...	...	...	2	—	1	3	3	—	6	3	9
Edge Hill	...	...	...	...	—	—	3	2	1	2	4	4	8
Toxteth...	...	...	...	...	1	1	2	5	7	3	10	9	19
Walton ...	...	...	...	...	3	—	1	6	5	3	9	9	18
West Derby	...	...	...	...	—	2	2	2	4	4	6	8	14
Wavertree	...	...	...	...	—	1	2	4	1	1	3	6	9
Fazakerley	...	...	...	...	—	3	2	6	2	—	4	9	13
Woolton	...	...	...	...	—	—	—	—	—	—	—	—	—
City	...	...	...	...	8	11	23	39	27	21	58	71	129
					19		62		48				

N.B.—Deaths in public institutions are transferred to the districts from which the patients came.

VENEREAL DISEASES

VENEREAL DISEASES.

Venereal diseases are of great importance to the community owing to the severity of the complications and after-effects in later life. As a result of the Report of the Royal Commission, the Public Health (Venereal Diseases) Regulations were passed in 1916, and came into force in Liverpool in 1917. The object of the regulations was to ensure that the treatment of affected persons should be carried out so as to effect their cure and to prevent the further spread of infection. The various county and borough councils were required to prepare schemes for free treatment at or in hospitals or institutions of persons suffering from these diseases and for the free distribution of suitable drugs to properly qualified medical practitioners. By a scheme of educational propaganda the public generally were to be informed of the dangers of these diseases and also of the facilities for free treatment which were available. The Government originally paid 75 per cent. of the expenditure, but this payment is now included in the Block Grant and is subject to revision from time to time.

The scheme has had an extensive trial and very good results may be claimed for it. The free facilities and supply of special drugs have been fully taken advantage of by many classes of patients and their medical advisers. The accompanying graph facing page 154 shows the total number of new cases of the two principal venereal diseases year by year. The new Central Clinic at Mill Road Infirmary, which was opened on January 1st, is now well established. The total attendances of all patients during the year was 19,676, which represents an increase of more than 6,000 over the combined attendances at the Stanley Hospital and Northern Hospital clinics which it has replaced. Like the Seamen's Dispensary, it is open daily from 10 a.m. to 8 p.m. for continuation treatment, and there are two clinics daily for both males and females.

The clinics operated by the Corporation during 1934 were as follows :

Seamen's Dispensary—Males only.

Mill Road Infirmary (Special Clinic)—Males and Females.

Royal Infirmary—Males and Females.

Royal Southern Hospital—Males and Females.

Edge Lane Hospital—Females.

Services rendered at the Venereal Diseases Treatment Centres during the Year, 1934.

	Syphilis.		Soft Chancre.		Gonorrhœa.		Conditions other than Venereal.		TOTALS.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Totals.
1. Number of cases on 1st January under treatment or observation	801	208	27	...	827	176	25	9	1,680	393	2,073
2. Number of cases removed from the register during any previous year which returned during the year under report for treatment or observation of the same infection	154	18	10	...	209	13	...	...	373	31	404
3. Number of cases dealt with for the first time during the year under report (exclusive of cases under Item 4) suffering from :—											
Syphilis, primary	152	16	...	...	...	...	...	...	152	16	168
" secondary	44	32	...	...	...	...	...	...	44	32	76
" latent in 1st year of infection	10	14	...	...	...	...	...	...	10	14	24
" all later stages	197	95	...	...	...	...	...	...	197	95	292
" congenital	16	40	...	...	...	...	...	...	16	40	56
Soft Chancre ... ..	...	...	148	1	...	...	...	...	148	1	149
Gonorrhœa, 1st year of infection ... ..	...	...	...	...	1,324	253	...	...	1,324	253	1,577
" later ... ..	...	...	...	...	121	34	...	...	121	34	155
Conditions other than venereal ... ..	...	...	...	...	...	...	1,217	175	1,217	175	1,392
4. Number of cases dealt with for the first time during the year under report known to have received treatment at other Centres for the same infection	262	50	13	...	308	106	...	...	583	156	739
	1,636	473	198	1	2,789	582	1,242	184	5,865	1,240	7,105
5. Number of cases discharged after completion of treatment and final tests of cure	94	18	80	1	626	35	1,226	180	2,026	234	2,260
6. Number of cases which ceased to attend before completion of treatment and were, on first attendance, suffering from :—											
Syphilis, primary	136	14	...	...	...	...	...	...	136	14	150
" secondary	45	21	...	...	...	...	...	...	45	21	66
" latent in 1st year of infection	8	14	...	...	...	...	...	...	8	14	22
" all later stages	194	67	...	...	...	...	...	...	194	67	261
" congenital	8	25	...	...	...	...	...	...	8	25	33
Soft Chancre ... ..	...	...	20	...	...	...	...	...	20	...	20
Gonorrhœa, 1st year of infection ... ..	...	...	...	...	577	106	...	...	577	106	683
" later ... ..	...	...	...	...	106	14	...	...	106	14	120
7. Number of cases which ceased to attend after completion of treatment but before final tests of cure	37	16	13	...	126	29	...	...	176	45	221
8. Number of cases transferred to other centres or to institutions, or to care of private practitioners	422	68	65	...	626	146	...	...	1,113	214	1,327
9. Number of cases remaining under treatment or observation on 31st December	692	230	20	...	728	252	16	4	1,456	486	1,942
	1,636	473	198	1	2,789	582	1,242	184	5,865	1,240	7,105
10. Number of cases in the following stages of syphilis (included in Item 6) which failed to complete one course of treatment :—											
Syphilis, primary	16	6	...	...	...	...	...	...	16	6	22
" secondary	6	4	...	...	...	...	...	...	6	4	10
" latent in 1st year of infection	1	1	...	...	...	...	...	...	1	1	2
" all later stages	30	25	...	...	...	...	...	...	30	25	55
" congenital ... ..	...	12	...	...	...	...	...	...	...	12	12
11. Number of attendances :—											
(a) for individual attention of the medical officers	14,858	5,824	884	4	29,873	5,616	2,136	398	47,751	11,842	59,593
(b) for intermediate treatment, e.g., irrigation, dressing	885	95	1,211	3	67,957	14,373	...	...	70,053	14,471	84,524
TOTAL ATTENDANCES	15,743	5,919	2,095	7	97,830	19,989	2,136	398	117,804	26,313	144,117
12. In-patients :—											
(a) Total number of persons admitted for treatment during the year	1	3	...	...	3	19	...	2	4	24	28
(b) Aggregate number of "in-patient days" of treatment given	2	209	...	...	70	1,550	...	47	72	1,806	1,878
13. Number of cases of congenital syphilis in Item 3 above classified according to age periods	Under 1 year.		1 and under 5 years.		5 and under 15 years.		15 years and over.		Totals.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
	...	5	...	7	11	11	5	17	16		40
14. Total number of injections given (out-patients and in-patients)					Approved Arsenobenzene Compounds.		Mercury.		Bismuth.		
					9,894		445		10,883		
15. Pathological Work :—					Microscopical		Serum Tests				
					for spirochetes.	for gonococci.	Wassermann.	Others for Syphilis.	for Gonorrhœa.		
					(a) Number of specimens examined at, and by the medical officer of, the Treatment centre	111	3,521	...	...	...
				(b) Number of specimens from patients attending at the Treatment Centre sent for examination to an approved laboratory	101	6,882	5,135	597	401		

The following summarises the work of the treatment centres for the year 1934 :—

	Seamen's Dispensary. Males only.	†Royal Infirmary. Males and Females.	*Royal Southern Hospital. Males and Females.	Mill Road Infirmary Spl. Clinic. Males and Females.	†Edge Lane Medical Home. Females.	TOTAL. Males and Females.
New cases ...	2,199	1,364	281	784	111	4,739
Old and new patients						
Total attendances	53,530	58,124	12,787	19,676	—	144,117
In-patient days	—	93	1,785	—	5,475	7,353

The Seamen's Dispensary, Mill Road special clinic and the Royal Infirmary are open all day for treatment of these diseases in the male, while Mill Road special clinic is also open all day for females, and at the Royal Infirmary treatment for females is provided each day at hours convenient to the greatest number of patients.

Laboratory services for the diagnosis and control of treatment are provided at the City Laboratories, the Thompson Yates Laboratory of the University and the Mill Road Infirmary Laboratory.

At the city laboratory, Wassermann reaction tests are done thrice weekly, rapid diagnosis obviating delay in treatment.

Wherever possible an effort is made to ascertain the person responsible for the patient's infection, with a view to bringing him or her under observation and treatment.

Experience has shown that it is the close personal touch with the patient and the interest in his case which helps to stimulate the sufferer to continue treatment, but the absence of any feeling of ill-health or discomfort may cause the development of a sense of indifference and the desire to avoid the irksome routine of attendance.

Many patients who are suffering from gonorrhœa unfortunately do not report for treatment until a few weeks have elapsed and the disease has extended considerably from the original point of infection, in many cases having complications, and involving important organs. This neglect or inability to seek medical advice may be attributed to the nature of employment or absence on ship at sea, but those who reside

* Closed as from 31st January, 1935.

† Beds for In-patients are reserved at these Institutions.

locally frequently can and do come for treatment at an earlier stage; the disease, however, is well established in the majority before they present themselves for treatment.

An analysis of the various types of the total actual number of new venereal disease cases met with at the clinics is as follows:—

Syphilis	...	...	...	...	...	27·3%
Soft chancre	...	...	...	...	...	5·6%
Gonorrhœa	...	...	...	...	...	67·1%

The figures for Liverpool correspond to those for the country generally.

Seamen's Dispensary.

The primary function of this clinic is to provide free and expert treatment for seamen of all nations, to act in an advisory capacity to medical officers of ships, ships' captains, and foreign consulates, and to provide a laboratory service for rapid diagnosis. Although the majority of the patients are seamen, other classes of occupation are also dealt with.

The staff consists of four part-time medical officers and four highly trained orderlies.

Excellent results have been recorded both in the treatment of gonorrhœa and of syphilis, and special schemes of treatment particularly suited to the needs of the seafaring population have proved efficient.

During the year under review, 3,352 cases have been advised and treated, of whom 2,199 reported for the first time. Of these, 698 were found not to be suffering from venereal disease.

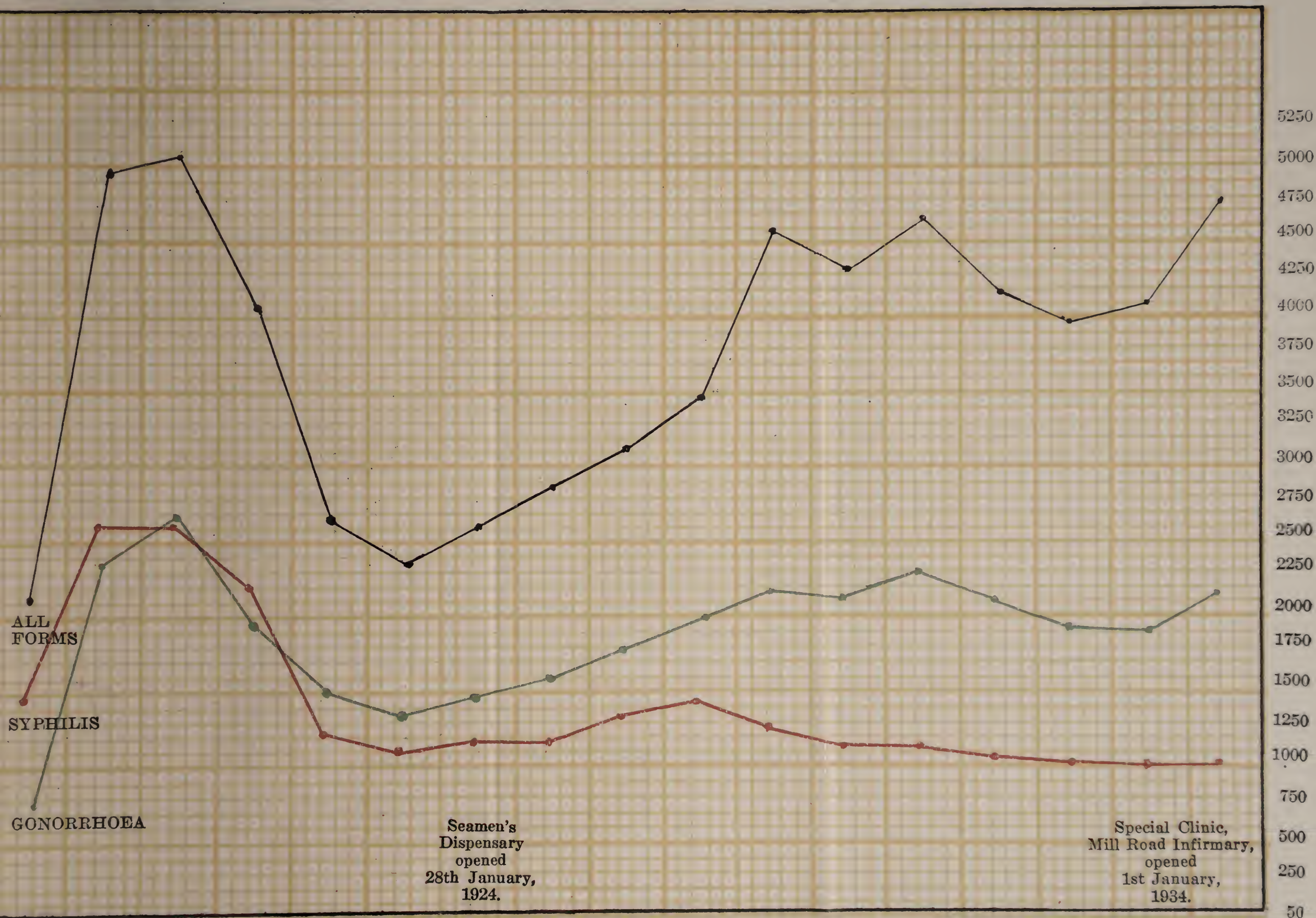
The classification of the cases dealt with at the Seamen's Dispensary for the first time during the year, and also for the five previous years, was as under:—

	1929	1930	1931	1932	1933	1934
Syphilis ...	413	419	346	293	304	354
Soft chancre ...	150	141	92	106	136	128
Gonorrhœa ...	1,112	1,113	970	834	918	1,019
Non-Venereal Cases...	446	589	563	440	586	698
	2,121	2,262	1,971	1,673	1,944	2,191

CITY OF LIVERPOOL.

VENEREAL DISEASES. Chart shewing number of New Cases from 1918 to 1934.

1918 1919 1920 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930 1931 1932 1933 1934



VENEREAL DISEASES

1897 1898 1899 1900 1901 1902 1903 1904



Venereal Diseases.—Time Table of Treatment Centres.

		NEW PATIENTS.		CONTINUATION TREATMENT.	
		MALES.	FEMALES.	Males.	Females.
MONDAY	Seamen's Dispensary ...	9.30 a.m. to 1 p.m. and 3 to 8 p.m.	...	9.30 a.m. to 1 p.m. and 3 to 8 p.m.	...
	Royal Infirmary ...	10 a.m. to 1 p.m. 5.30 to 6.30 p.m.	2 p.m.	9.30 a.m. to 8 p.m.	2 p.m.
	Mill Road Infirmary ...	10 a.m. to 1 p.m. and 6 to 8 p.m.	2 to 4 p.m. 6 to 8 p.m.	10 a.m. to 1 p.m. and 5.30 to 8 p.m.	2 to 4 p.m. 6 to 8 p.m.
TUESDAY	Seamen's Dispensary ...	9.30 a.m. to 1 p.m. and 3 to 8 p.m.	...	9.30 a.m. to 1 p.m. and 3 to 8 p.m.	...
	Royal Infirmary ...	10 a.m. to 1 p.m.	5.30 to 6.30 p.m.	9.30 a.m. to 4.30 p.m.	2 p.m.
	Mill Road Infirmary ...	10 a.m. to 1 p.m. and 6 to 8 p.m.	2 to 4 p.m., 6 to 8 p.m.	10 a.m. to 1 p.m. and 5.30 to 8 p.m.	2 to 4 p.m., 6 to 8 p.m.
WEDNESDAY	Seamen's Dispensary ...	9.30 a.m. to 1 p.m. and 3 to 8 p.m.	...	9.30 a.m. to 1 p.m. and 3 to 8 p.m.	...
	Royal Infirmary ...	10 a.m. to 1 p.m. 5.30 to 6.30 p.m.	2 p.m.	9.30 a.m. to 8 p.m.	2 p.m.
	Mill Road Infirmary ...	10 a.m. to 1 p.m. and 6 to 8 p.m.	2 to 4 p.m. 6 to 8 p.m.	10 a.m. to 1 p.m. and 5.30 to 8 p.m.	2 to 4 p.m. 6 to 8 p.m.
THURSDAY	Seamen's Dispensary ...	9.30 a.m. to 1 p.m. and 3 to 8 p.m.	...	9.30 a.m. to 1 p.m. and 3 to 8 p.m.	...
	Royal Infirmary ...	5 to 6 p.m.	12 noon to 1 p.m.	9.30 to 11.30 a.m. and 2 to 8 p.m.	2 p.m.
	Mill Road Infirmary ...	10 a.m. to 1 p.m. and 6 to 8 p.m.	2 to 4 p.m. 6 to 8 p.m.	10 a.m. to 1 p.m. and 5.30 to 8 p.m.	2 to 4 p.m. 6 to 8 p.m.
FRIDAY	Seamen's Dispensary ...	9.30 a.m. to 1 p.m. and 3 to 8 p.m.	...	9.30 a.m. to 1 p.m. and 3 to 8 p.m.	...
	Royal Infirmary ...	10 a.m. to 1 p.m. and 7 to 8 p.m.	2 p.m.	9.30 a.m. to 8 p.m.	2 p.m.
	Mill Road Infirmary ...	10 a.m. to 1 p.m. and 6 to 8 p.m.	2 to 4 p.m. 6 to 8 p.m.	10 a.m. to 1 p.m. and 5.30 to 8 p.m.	2 to 4 p.m., 6 to 8 p.m.
SATURDAY	Seamen's Dispensary ...	9.30 a.m. to 1 p.m.	...	9.30 a.m. to 1 p.m.	...
	Royal Infirmary ...	By arrangement	...	9.30 a.m. to 1 p.m.	By arrange- ment.
	Mill Road Infirmary ...	10 a.m. to 1 p.m.	10 to 1 p.m. ...	10 a.m. to 1 p.m.	10 a.m. to 1 p.m.

Clinics in other Merseyside Areas.

BIRKENHEAD General Hospital 	Males Mon., Wed., and Fri., 5-30 p.m.	Females Tues., 5-30 p.m. Fri., 2 p.m.
BOOTLE General Hospital 	Males Mon., 5 p.m. Tues., Wed., and Fri., 6-0 p.m.	Females Wed., 12 noon. Thurs., 5 p.m.
WALLASEY Mill Lane Clinic 	Males Wed., 7-45 to 8-30 p.m.	Females Mon., 5-30 to 6-30 p.m.

HOSPITAL AND HEALTH
SERVICES.

INFECTIOUS HOSPITALS and SANATORIA.

During the year 1934 the City Infectious Hospitals and Sanatoria were in full commission.

At the end of the year the amount of hospital accommodation for infectious cases was as follows :—

City Hospital North	...	...	...	...	187 beds.
„ South	...	...	...	...	101 „
„ East	...	...	...	...	174 „
„ Fazakerley	...	...	...	...	300 „
„ Fazakerley Annexe	...	...	...	...	150 „
„ Sparrow Hall	...	...	...	...	160 „
Fazakerley Sanatorium	...	...	...	...	265 „
Broadgreen Sanatorium	...	...	...	...	336 „
*Cleaver Sanatorium	...	...	...	...	200 „
					1,873 „

At the City Hospital, Fazakerley, 38 beds are set aside for the treatment of tuberculous patients, in addition to the beds at the Fazakerley Sanatorium.

At the beginning of the year the City Infectious Hospitals were well occupied, a large number of cases of diphtheria being under treatment. The number of patients suffering from this disease steadily decreased from 400 at the beginning of the year to 300 at the beginning of September. Towards the close of the year further cases were reported, and by December there were 450 diphtheria patients under treatment.

With regard to scarlet fever, the year commenced with 500 patients in hospital. This figure had decreased to 400 in February and 260 in May. By July the figures dropped to 200, and in September to 164. A slight increase then took place and there were 185 patients in hospital at the end of the year.

There were 63 patients suffering from measles in the city hospitals at the beginning of the year, but this figure steadily increased from

* Sanction of the Ministry of Health was obtained for the appropriation of Cleaver Sanatorium from April 1st, 1935.

month to month, rising to 160 in March. A decrease then set in, and by July the figure was down to 60 again. The number of cases steadily diminished and by the end of the year there were no cases of measles in the City Hospitals.

Whooping cough was not very prevalent at the beginning of the year 1934, when there were 57 patients in hospital. This figure increased to 147 in April and then diminished month by month to September. At the end of the year 23 patients were under treatment.

Some of the beds at the Walton Hospital and at the Olive Mount Hospital were utilised for the treatment of minor infectious cases and this assistance proved very useful in dealing with the large number of cases reported for hospital treatment.

Beds were provided at the various hospitals during the year for patients suffering from the following diseases, viz.:—scarlet fever, diphtheria, measles, whooping cough, enteric fever, erysipelas, cerebro-spinal fever, encephalitis lethargica, anthrax, influenzal pneumonia and chickenpox.

The value of the hospitals, and the immense amount of useful work performed, is shown by the fact that no less than 8,001 patients were admitted during the year.

The Hospitals Committee have agreed with various local authorities to receive cases of infectious disease from districts beyond the city boundary, namely, Waterloo and Seaforth, Great Crosby, Leasowe Hospital, the Children's Convalescent Home, West Kirby, and the Royal Liverpool Children's Hospital, Heswall.

Arrangements have also been made to deal with any case of cholera, yellow fever, or plague, which may arise in any of the neighbouring urban or rural districts. A suitable charge is made in each case.

Outside Areas and Smallpox.

The question of smallpox cases in neighbouring areas was specially considered by the Port Sanitary and Hospitals Committee in 1928. Arrangements have been in force for some years with most of the local authorities in the district for any cases of smallpox occurring in their areas to be accommodated in Liverpool hospitals.

It has always been recognised that the presence of smallpox in areas adjoining or close to Liverpool is a matter in which the city is vitally interested, as an outbreak of this disease, unless promptly dealt with, might result in the spread of the infection to the Liverpool area, and also do considerable harm to the trading interests of the city and port.

A number of the adjoining local authorities have entered into an agreement to pay a retaining fee each year towards the upkeep of a smallpox hospital, the payment being based on census population. A further charge is made for the maintenance of each patient sent into the hospital for treatment.

The following tables, prepared by the medical staff of each of the city hospitals, show the number of patients admitted, the nature of the illness in each case and the results of treatment, during the year 1934 :—

DISEASES.	Remaining Dec. 31st, 1933.	Admitted during the year.	Transferred from other City Hospitals.	Total under Treatment during the year.	Transferred to Convalescent Hospital.	Transferred to other City Hospitals.	Discharged	Remaining at end of year.	Died within 48 hours of Admission.
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City Hospital North, Netherfield Road.

Scarlet Fever ...	102	875	14	991	77	5	840	65	3
Diphtheria ...	53	274	7	334	—	1	281	39	1
Other diseases and Observation cases ...	9	140	1	150	1	—	144	4	—
Totals ...	164	1,289	22	1,475	78	6	1,265	108	4

City Hospital South, Grafton Street.

Scarlet fever ...	72	457	—	529	28	10	467	23	1
Measles ...	—	143	—	143	—	9	116	1	6
Diphtheria ...	26	167	—	193	—	—	154	28	2
Para-typhoid fever ...	—	2	—	2	—	2	—	—	—
Observation cases ...	14	81	—	95	—	2	83	9	1
Totals ...	112	850	—	962	28	23	820	61	10

DISEASES.	Remaining Dec. 31st, 1933.	Admitted during the year.	Transferred from other City Hospitals.	Total under Treatment during the year.	Transferred to Convalescent Hospital.	Transferred to other City Hospitals.	Discharged	Remaining at end of year.	Died within 48 hours of Admission.	Total Deaths.
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City Hospital East, Mill Lane, Old Swan.

phtheria ...	160	1,159	—	1,319	—	7	1,071	158	23	83
Observation Cases	8	183	—	191	—	2	184	1	—	4
Totals ...	168	1,342	—	1,510	—	9	1,255	159	23	87

City Hospitals, Fazakerley.

Scarlet fever ...	233	1,055	61	1,349	—	59	1,190	93	2	7
Enteric fever group	4	17	—	21	—	—	17	4	—	—
phtheria ...	162	1,213	29	1,404	—	18	1,063	265	15	58
Measles ...	—	268	30	298	—	24	246	1	2	27
Whooping Cough ...	—	96	16	112	—	14	78	—	2	20
Other diseases ...	108	1,031	16	1,155	—	13	985	102	9	55
Totals ...	507	3,680	152	4,339	—	128	3,579	465	30	167

Fazakerley Sanatorium.

tuberculosis ...	322	351	—	673	—	—	304	298	2	71
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Broadgreen Sanatorium.

tuberculosis ...	309	404	87	800	—	11	337	328	3	124
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Cleaver Sanatorium.

tuberculosis ...	193	85	86	364	—	53	148	161	—	2
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Infectious Disease Hospitals and Sanatoria.
Statement of Admissions, Discharges, Deaths, and Transfers.

Hospital or Sanatorium.	Remaining Dec. 31st, 1933.	Admitted	Trans- ferred to	Dis- charged	Trans- ferred from	Died.	Remaining Dec. 31st, 1934.
City Hospitals, Fazakerley	507	3,680	152	3,579	128	167	465
City Hospital North	164	1,289	22	1,265	84	18	108
City Hospital East	168	1,342	...	1,255	9	87	159
City Hospital South	112	850	...	820	51	30	61
Broadgreen Sanatorium	309	404	87	337	11	124	328
Fazakerley Sanatorium	322	351	...	304	...	71	298
Cleaver Sanatorium	193	85	86	148	53	2	161
TOTAL	1,775	8,001	347	7,708	336	499	1,580

General and Children's Hospitals and other Institutions.

Statement of Admissions, Discharges, Births, Deaths, and Transfers.

Hospital or Establishment	Remaining Dec. 30th, 1933	Admitted.	Trans- ferred to	Born.	Dis- charged.	Trans- ferred from	Died.	Remaining Dec. 29th, 1934.
Administered under the Poor Law Acts :—								
Walton Hospital ...	1,373	15,245	222	1,976	15,209	571	1,782	1,254
Belmont Road Institution ...	1,323	4,064	691	...	4,035	482	346	1,215
Smithdown Road Hospital ...	917	8,979	194	1,397	8,440	955	1,183	909
Kirkdale Homes ...	1,230	164	534	...	301	149	192	1,286
Olive Mount Children's Hospital ...	300	1,476	859	...	1,950	408	60	217
Cottage Homes, Fazakerley ...	449	43	203	...	123	184	...	388
Shaw Street Boys' Home ...	55	28	52	...	70	10	...	55
Seafeld House ...	236	23	6	...	21	10	...	234
Administered under the Public Health Acts :—								
Mill Road Infirmary ...	448	8,200	65	1,322	8,558	293	702	482
Alder Hey Hospital ...	682	7,966	637	...	7,102	808	719	656
TOTAL ...	7,013	46,188	3,463	4,695	45,809	3,870	4,984	6,696
CASUAL WARDS—								
Belmont Road...	17	4,751	...	...	4,745	...	...	23

FAZAKERLEY HOSPITALS.

REPORT OF THE MEDICAL SUPERINTENDENT.

During the year, 3,680 patients were admitted to the Fazakerley Hospitals (excluding Fazakerley Sanatorium), a decrease of 714 as compared with the previous year. These admissions were as follows:—

Fazakerley Isolation Hospital	...	...	1,980
Fazakerley Annexe Hospital...	...	...	978
Sparrow Hall Hospital	...	...	722

Anthrax.

Both of the cases of Anthrax treated were men employed locally on or about the Docks. No. 59 was severe, and at the same time dangerous from the site of infection.

During the year 25 persons, suffering from carbuncle, boils or other septic foci, attended at the Hospital for Anthrax investigation. In no instance was Anthrax infection found.

Cases of Anthrax treated at Liverpool City Hospital, Fazakerley, during 1934.

Series No. continued from 1933	Age	Sex	Occupation	Days ill on admission	Site of Infection	Clinical Notes	Serum injected daily. Each dose expressed in ccs	Complications.	R
59	32	M.	Carter	2	Root of neck, in front	Oedema, from ear to below clavicle. Partial aphonia	300 300 300 300 310	Oedema to below nipple. Abscess of neck after sloughing phase	R
60	54	M.	Dock labourer	3	Back of neck	Extensive area of infection	300 200 100 300 300	Recrudescence on 4th day of treatment. Considerable local necrosis and sepsis	R

All serum was given intravenously. Both cases received, in addition to the serum, 0.3 mgm. and 0.45 mgm. of Neokharsivan intravenously on the first and third day of treatment respectively.

Injectons of serum bracketed were given in the one day.

**HOSPITALS, SANATORIA, AND INSTITUTIONS UNDER THE CONTROL OF THE
PORT SANITARY AND HOSPITALS COMMITTEE.**

Name of Institution.	Built by	Date of Foundation.	No. of Beds Dec. 31st, 1934.	Original User.	Present User.
Walton Hospital ...	West Derby Union	1864	1,869	General Mixed Institution	Mainly a General Hospital, but some male and female healthy and infirm adults. (a) acute and subacute medical, surgical, gynaecological and special. (b) Adult pulmonary tuberculosis unsuitable for sanatorium treatment. (c) Maternity. (d) Female Venereal Disease. (e) Isolation for minor infectious diseases in children. (f) Nursery for newly born and illegitimate children.
Belmont Road Institution	West Derby Union	1890	1,636	General Mixed Institution	Healthy adults including casuals, aged, infirm, and bedridden men and women. Skin diseases. Male Venereal Diseases. Casual Wayfarers.
Smithdown Road Hospital	Township of Toxteth Park	1858	1,207	General Mixed Institution	General Hospital. (a) Acute and subacute Medical, Surgical and Gynaecological and special cases. (b) Acute mental disease. (c) Chronic senile dementia (females). (d) Low grade mentally defective children. (e) Female epileptics. (f) Maternity. (g) A few healthy adults.
Kirkdale Homes ...	Liverpool Select Vestry	1843	1,502	School for Destitute Boys	Homes for aged and infirm men and women. Chronic and senile mental diseases (males). Chronic Encephalitis Lethargica (Males). Male Epileptics.
Mill Road Infirmary ...	West Derby Union	1838	829	General Mixed Institution, but present buildings intended only for Hospital use.	General Hospital for acute disease, Medical, Surgical, Gynaecological, Maternity and Special.
Alder Hey Children's Hospital	West Derby Union	1914	956	Infirm and Aged	General Children's Hospital. Medical, Surgical, Orthopaedic (including Surgical Tuberculosis).
Olive Mount Children's Hospital	Liverpool Select Vestry	1903	475	Receiving Home for Children, Cottage Homes for Children.	Receiving Home for Children. Nursery for destitute children, 4 years. Acute infectious diseases (Measles, Whooping Cough, and Chicken Pox). Convalescent Children.
Cottage Homes, Fazakerley	West Derby Union	1887	571	Homes for Resident Children	Homes for Resident Children up to 14 years.
Shaw Street Home for Boys	Purchased by West Derby Union	Opened 1913	79	Private House	Home for working boys over 14 years.
Seafeld House ...	Leased from Mersey Docks & Harbour Board by West Derby Union	Leased 1912 Renewed 1932	235	Hydropathic adapted for present use	Mentally defective children (mainly imbecile and ineducable of higher grade).
Cleaver Sanatorium ...	West Derby, L'pool, and Toxteth Park Joint Hospital Committee.	1903	200	Pulmonary Tuberculosis	Pulmonary Tuberculosis in Children.
Deysbrook House ...	Purchased by West Derby Union	1911	—	Private Home for Children	Not in use.
Broadgreen Sanatorium	Liverpool Select Vestry	1906	336	Infirm and aged	Sanatorium for Tuberculosis. Male and Female, Adult and Children. Pulmonary.
Fazakerley Sanatorium	Liverpool City Council	1920	265	Pulmonary Tuberculosis in Adults	Original use.
Fazakerley Isolation ...	Liverpool City Council	1906	300	All Types of Infectious Disease except Small Pox	Original use, and Tuberculosis, both Pulmonary and mixed Pulmonary and Surgical.
Fazakerley Annex ...	Liverpool City Council	1901	150	All Types of Infectious Diseases.	Original use.
Sparrow Hall ...	Liverpool City Council	1917	160	Small Pox Hospital	Available for Small Pox, but mainly used for Infectious Diseases.
City Hospital North ...	Dr. Gee ...	1866	187	Infectious Disease	Scarlet Fever, Diphtheria and Measles.
City Hospital East ...	Wavertree Urban District Council	1888	174	Infectious Disease	Diphtheria.
City Hospital South ...	Liverpool City Council	1884	101	Infectious Disease	Scarlet Fever, Diphtheria, and Measles.
			11,232		

MUNICIPAL HOSPITALS and INSTITUTIONS.

The Hospitals and Institutions under the management of the Port Sanitary and Hospitals Committee number twenty, in addition to the Port Sanitary Hospital at New Ferry. They may be classified as follows :—

(a) Isolation Hospitals and Sanatoria, the property of the Liverpool Corporation prior to 1930	8
(b) Hospitals transferred under the Local Government Act, 1929, and subsequently appropriated	2
(c) Hospitals and other Institutions transferred under the Local Government Act, 1929, and not appropriated	10
Total	20

A description of these Institutions is appended in the accompanying table.

GENERAL REVIEW.

The outstanding feature of the year 1934 was the inclusion in Annual Estimates of capital sums amounting to £214,635 for the extension of the hospital buildings as varied subsequently in certain cases by the City Council.

Provision was made as follows :—

Nurses' Homes.	£.	Position, March 31st, 1935.
Smithdown Road Hospital.	17,680	Work in Progress.
Walton Hospital.	46,250	Plans approved.
Alder Hey Children's Hospital.	19,000	Plans approved.
Cleaver Sanatorium.	1,950	Work in progress.
Fazakerley Isolation Hospital.	16,000	Plans sent to Ministry of Health.
Mill Road Infirmary.	11,000	Negotiations for site.

Continuation Departments.

Smithdown Road Hospital.	5,088	Work in progress.
Mill Road Infirmary.	5,000	Plans in preparation.

Laundry Extensions.		£.	Position, March 31st, 1935.
Smithdown Road Hospital.		11,530	Work in progress.
Belmont Road Institution.		1,200	Mess Room for workers, etc., completed.
Boiler House Extensions, etc.			
Walton Hospital.		3,700	New boiler and dynamo.
Smithdown Road Hospital.		999	Completed.
Mill Road Infirmary.		7,094	New Boilers, chimney and generator.
Olive Mount—Heating of Ward Blocks.		3,430	Completed.
Broadgreen Sanatorium.		2,950	New Heating Plant, etc., and Dynamo.
Alder Hey Hospital.			
Kitchen extensions, milk room, etc.		4,709	Work in progress. Almost completed.
Lay-out of land.		10,000	Tenders invited.
Conversion of Ward to Cubicles.		1,170	Completed.
Broadgreen Sanatorium.			
Patients' Dining Room.		1,965	Work in progress.
Fazakerley Sanatorium.			
Porters' Lodge.		930	Work in hand.
Fazakerley Isolation Hospital.			
Two blocks of cubicles.		28,000	Plans sent to Ministry of Health.
Mill Road Infirmary.			
Modernization of "F" and "G" Blocks.		4,050	Work almost completed.
Belmont Road Institution.			
New General Stores.		3,000	Completed.
Mortuary.		2,370.	Work in progress.
Chapels.		4,570.	
Mill Lane Hospital.			
Recreation Room.		1,000.	Plans not yet prepared.

The major portion of this projected expenditure relates to the provision of accommodation for nurses and for continuation departments. The necessity for these extensions has been discussed in previous reports and in the special report to the Co-ordination (Special) Committee on the development of hospital services. This need arises from the greatly-increased resort to the general, children's and skin hospitals on the

DETAILS OF ADMISSIONS, DISCHARGES, ETC., AND WORK UNDERTAKEN AT THE FOUR MUNICIPAL HOSPITALS FOR PERIOD 1930 to 1934.

	WALTON HOSPITAL.					SMITHDOWN ROAD HOSPITAL.					MILL ROAD INFIRMARY.					ALDER HEY HOSPITAL.					
	1930	1931	1932	1933	1934	1930	1931	1932	1933	1934	1930	1931	1932	1933	1934	1930	1931	1932	1933	1934	
*Admissions	12,948	13,662	14,958	15,638	15,245	5,214	6,400	7,365	8,559	8,979	7,989	7,840	7,200	8,025	8,200	5,887	6,071	7,129	8,525	7,966	
*Transferred to	290	303	301	229	222	312	465	403	230	194	366	380	230	95	65	450	344	408	530	637	
*Born	1,334	1,410	1,827	1,927	1,976	758	1,015	1,127	1,159	1,397	766	896	990	1,061	1,322	—	—	—	—	—	
*Discharged	12,289	13,069	14,651	15,584	15,209	5,087	6,090	6,872	7,893	8,440	7,282	7,463	7,479	8,224	8,558	4,383	4,812	6,027	6,959	7,102	
*Transferred from	670	770	669	555	571	556	682	1,122	926	955	1,034	985	344	215	293	1,212	861	852	1,371	808	
*Died	1,639	1,689	1,690	1,897	1,782	805	1,046	1,015	1,204	1,183	812	749	609	745	702	705	781	712	810	719	
Surgical Operations	2,142	2,287	2,868	2,993	3,607	383	664	800	1,077	922	1,433	1,552	1,927	2,209	2,416	1,189	1,264	1,496	2,242	2,266	
Out-Patient Attendances	14,579	12,845	26,563	29,592	33,708	No Record		9,352	12,016	19,633	No R'd		5,744	12,635	32,184	51,341	9,336	14,691	20,048	24,005	32,213
Pathological Examinations	24,325	25,603	22,147	20,630	24,506	630	3,200	4,463	5,745	9,160	3,225	4,634	5,425	8,640	17,071	1,423	2,115	2,718	5,611	6,838	
Post-mortems	340	417	978	1033	1,109	No Record			101	98	99	108	141	176	227	9	135	210	216	92	
X-Ray Examinations... ..	3,768	3,575	3,685	7,913	17,292	1,235	1,892	2,335	4,457	5,531	4,588	5,395	7,472	8,288	11,008	4,308	4,176	6,204	8,182	8,081	

* These figures correspond with the returns to the Ministry of Health and are made up to the last week-end of each year. This accounts for the slight variation between the figures returned by the respective Hospitals which are for the actual Calendar year.

part of the working class population. It is of interest to review the figures relating to the alterations in the work of the Transferred Hospitals in the five years that have elapsed since the Local Government Act of 1929 came into operation. Thus in 1930, the year after the transfer of the Municipal Hospitals from the West Derby Board of Guardians, the admissions to the institutions under their control numbered 38,595 whereas during 1934 they numbered 46,275, an increase in those admitted of 7,680, or 19·9 per cent. during the period in question.

The number of persons admitted to the hospitals bears a direct relationship to the prevalence of infectious diseases and influenza which varies from year to year. During 1933 infectious disease and influenza were both extremely prevalent, and large numbers were admitted to the hospitals under the charge of the Committee. During 1934 there was a great reduction in the prevalence of scarlet fever, measles and influenza, and the numbers admitted to hospital were correspondingly reduced. Wards for measles and whooping cough, etc., are attached to Walton and Olive Mount Hospitals, and persons suffering from pneumonia or other complications of influenza are admitted to all the hospitals. There was a decrease in the admissions to the transferred institutions of 776 patients in 1934 as compared with the previous year. This decrease, however, is more than accounted for by the decreases in infectious diseases and influenza of 1,419 and 553 respectively, and if allowance is made for these reductions there is a net increase in the admissions of 1,196 patients. This increase of "non-infectious" patients is caused by the increase in the number of mothers and babies, amounting to 1,116. There are indications, therefore, that the rapidly increasing resort to the hospitals has, apart from maternity admissions, ceased for the present.

These figures are shown in detail for the four principal hospitals in the accompanying table. Examination of this table will show that there was an increase in 5 years of the admissions to the four hospitals of 8,352 patients. The character of the work carried out has also greatly altered, methods of examination and treatment having been considerably extended. Thus X-ray examinations have advanced from 13,899 to 41,912, an increase of 28,013. Pathological examinations have similarly increased from 29,603 to 57,575, an increase of 27,972; the increase is actually greater, both in numbers and character, than is

indicated by this figure because at Walton Hospital many examinations formerly carried out in the laboratory are now made in the clinic rooms attached to each division. Further, the appointment of two medical pathologists at Walton and Mill Road group laboratories has radically altered the nature of the examinations made. Surgical operations have advanced from 5,147 to 9,211, an increase of 4,064. There has been an alteration in the character of the work, many more acute cases, such as road accidents and other surgical emergencies, being admitted.

Maternity Departments.

The number of births has increased since 1930 from 2,858 to 4,695, an increase of 1,837 births or 64·3 per cent. The maternity wards were, for the most part, not specially built for this purpose, although certain essential adaptations have been made; many of the ward units are too large. The ante-natal clinics are quite inadequate and are much overcrowded. The character of these units is now under review. Provision is made for an ante-natal clinic in the Continuation Department at Mill Road Institution, and at Smithdown Road Hospital a new building is proposed. Despite these defects admirable work has been done in the maternity units and a very low maternal mortality has to be recorded for the year 1934; the mortality from puerperal sepsis among women confined throughout the Municipal Maternity Units being 0·21 per 1,000 births compared with 1·37 for the city as a whole. The recorded death from this cause was found after post-mortem examination to be due to uræmia. There were, therefore, no deaths due to mothers infected in hospital.

Continuation Department.

The number of persons treated in the Continuation Out-patient Departments has again markedly increased. Figures of attendances at these departments are not available for all the hospitals for the whole period of five years but they have increased from 89,828 in 1932 to 118,856 in 1933 and 147,186 in 1934, an increase of 57,358 in two years. The transferred hospitals contained no buildings erected or adaptable for this purpose. The new admission and continuation block at Alder Hey Hospital was completed in 1932.

During the year 1934 the building of a continuation department for medical and surgical cases at Smithdown Road Hospital was begun

and the work is now well in hand. Owing to the restricted site, the existing mortuary had to be transferred to a building formerly used as a casual ward; the site thus vacated was used for the construction of a unit consisting of waiting hall, medical, surgical, dental, and ear and eye consulting rooms and a small surgical casualty unit, together with office, dispensary, etc. The massage and electro-therapy unit is adjacent. This unit will give much needed relief to the wards.

Plans are in preparation by the Land Steward and Surveyor for a similar unit at Mill Road Infirmary which will also provide for the ante-natal clinic. A site is available which is occupied by the former steward's house and certain insanitary cottage property which has now been vacated. Since 1931, the continuation attendances have increased from 5,744 to 51,341. The need for a similar department at Walton Hospital is almost equally pressing, the continuation attendances having increased from 12,845 to 33,708 in the same period; the ante-natal clinic in the maternity unit is quite inadequate for the increasing numbers attending and an ante-natal clinic should be provided in a new building.

Infectious Diseases.

The heavy demands made during the last few years upon the accommodation for infectious diseases showed a considerable falling off during 1934. The severe epidemic of scarlet fever which occurred in the autumn of 1933 continued into the earlier part of 1934, but the numbers fell away during the greater part of the year, and there was a comparatively small autumnal rise.

Diphtheria of a severe type, associated with the prevalence of the *gravis* strain of bacillus, continued prevalent, and there was only a very slight fall in the numbers of deaths.

Measles and Whooping Cough were both very prevalent in the earlier part of the year but showed a marked reduction in the numbers admitted during the third and fourth quarters. Epidemics of these diseases are to be expected in alternate years leading to recurrent demands upon hospital beds. The use of "adult" serum for the control of outbreaks in hospital wards, into which children incubating the disease have been admitted, continues to be attended with marked success.

During the prevalence of measles, whooping cough and chicken pox it frequently occurs that children who have diphtheria or scarlet fever and are also suffering from, or have been exposed to, one of these three diseases, are notified to the Health Department for removal. Such cases cannot be admitted into the ordinary wards nor into those used for "bed isolation." The only suitable accommodation for such cases is in separate individual wards or cubicles, failing which the patient must be left at home. The need for additional cubicles for such cases has been felt for some years. During 1934 plans were drawn up and submitted to the Ministry of Health for two blocks of cubicles at Fazakerley Isolation Hospital, each block to contain 34 cubicles.

The use of the 56 cubicles at Alder Hey Children's Hospital was again an unqualified success, and 2,093 children were admitted into them during the year. Progress was made with the conversion of a 30-bedded ward into 16 cubicles during the year. By the use of these cubicles there was a marked restriction in the admission of infection into the wards.

Medical Services.

Progress has been made in the extension of the medical staffs on the lines laid down in previous reports. In these reports it was indicated that, in order to make the maximum use of the available hospital beds, increases in the medical, nursing and technical staffs were necessary. The advances in medicine and surgery made during the present century have been very great. These advances not only have provided cures for many diseases formerly incurable, but have greatly facilitated the earlier and more accurate diagnosis of many conditions, thus permitting an earlier or more rapid alleviation. Work of this character requires a greater number of resident medical officers and nurses, and calls for the services of specialists in all branches of medicine and surgery and also in the laboratories and X-Ray rooms.

During the year the following appointments were made:—

Following upon the retirement of Dr. Claude Rundle, O.B.E., who had been Medical Superintendent of the Fazakerley group of Hospitals for 28 years, Dr. A. E. Hodgson was appointed Medical Superintendent of the Fazakerley group of Isolation Hospitals, and Dr. W. Crane was

appointed Medical Superintendent at the Fazakerley Sanatorium. Dr. E. Burns was appointed Deputy-Superintendent to the Isolation group and also Visiting Physician to the City Hospitals East and South.

Additional Visiting Physician to Walton Hospital—Dr. John Hay, F.R.C.P.

„ Orthopædic Surgeon to Alder Hey Hospital—Mr. Bryan McFarland.

„ Oto-rhinologist to Alder Hey Hospital—Mr. J. McFarland.

Visiting Ophthalmic Specialist to Mill Road Infirmary, Alder Hey Hospital, etc. (in place of Dr. Bernard Chavasse, (resigned)—Dr. J. A. McCann.

Additional Visiting Ophthalmic Specialist to Walton Hospital—Dr. J. Brodrick.

Visiting Psychiatrist to Smithdown Road Hospital.—Dr. F. Hopkins.

Visiting Radiologist to Mill Road Infirmary and Smithdown Road Hospital—Dr. P. H. Whitaker.

Two non-resident Medical Officers to the Central V.D. Clinic, Mill Road Infirmary.

Additional Resident Medical Officers were appointed at Walton Hospital, Mill Road Infirmary, Alder Hey Hospital, and Sparrow Hall Isolation Hospital.

The Medical Officer records with great regret the retirement and subsequent death of Dr. H. McCormick Mitchell, Visiting Dermatologist to the City Hospitals. Following his retirement Dr. F. Glyn-Hughes was appointed Visiting Dermatologist, and Dr. Eric H. Glynn was appointed Assistant Dermatologist.

Diagnostic Services and Equipment.

The number of radiological examinations has again shown a marked rise from 28,840 in 1933 to 41,912 in 1934. Portable X-Ray plants have been installed at Walton Hospital and Mill Road Infirmary, which will permit of bedside examinations in cases such as pneumonia or

severe injuries where the condition of the patient does not permit transference to the X-Ray room. They will also serve as a relief to the fixed plant which at times tends to be overloaded. Provision for a portable plant at Smithdown Road Hospital has been made in the estimates for 1935.

The pathological laboratory examinations have risen to an increase of 27,972 over the examinations made in the previous year. A whole-time pathological technician was appointed at Alder Hey Hospital and has proved a valuable addition to the staff.

The electro-cardiographs at Walton and Smithdown Road Hospitals continue to give invaluable assistance in the diagnosis and control of cases of heart disease, pneumonia and other conditions. Provision is made in the estimates for 1935 for a portable electro-cardiograph for Mill Road Infirmary.

Nursing Services.

The increases in the number of operations and in the work of the continuation departments referred to above make additional calls upon the nurses in the hospitals, as do advances in various other departments. In the four principal hospitals, nurses have had to be accommodated in makeshift quarters of varying degrees of unsuitability, and even these annexes do not provide for the requisite number of nurses.

Extensions of the existing nurses' homes are accordingly required at each hospital, and provision was made in the year's estimates for new buildings. The most urgently needed was at Smithdown Road, where a new block which will unite the Nurses' Home to the Administrative Block is now in course of erection. At the same time, the existing accommodation for probationers in the Administrative Block will be remodelled and dormitories will be converted into separate rooms. When finished there will be room for 167 nurses and sisters.

Plans have also been prepared by the Land Steward and Surveyor for extensions to the Nurses' Homes at Walton Hospital and Alder Hey Children's Hospital to provide 166 and 76 additional beds,

respectively. These plans have been approved by the Ministry of Health, and it is hoped that the buildings will be constructed during the current year. Plans have also been drawn up for a new nurses' home at Fazakerley for the night staff in the Isolation Hospitals and Sanatorium to accommodate 65 nurses, where, also, the nurses are accommodated in various rooms not intended for the purpose.

At Cleaver Sanatorium additional bedrooms for twelve nurses, and an extension of the recreation room, are in progress.

At Mill Road Infirmary any extension of the Nurses' Home is dependent upon acquiring a site for building. The site of an adjacent school, which is not up to modern standards, is eminently suitable for this purpose, but the Education Department will require to find a site for the construction of an equivalent building before the existing school can be vacated.

The increase in the numbers of maternity cases and of the attendances at the ante-natal clinics necessitates corresponding additions to the numbers of pupil midwives. A considerable proportion of the nurses training in the three general hospitals take the Certificate of the Central Midwives Board.

The number of nurses and pupil midwives who have completed their training and passed their final examinations at the several hospitals during the year was as follows:—

	General Nursing Certificate.	Children's Nurse's Certifi- cates.	C.M.B. Certifi- cates.	Fever and Tuber- culosis Certifi- cates.
Walton Hospital	37	—	35	—
Mill Road Infirmary	21	—	23	—
Smithdown Road Hospital	12	—	37	—
Alder Hey Children's Hospital ..	—	21	—	—
Group I	—	—	—	38
Group II	—	—	—	32

Buildings and Equipment.

The programme of construction for the next few years was outlined in the report of 1933, and considerable progress has to be recorded for 1934.

At Smithdown Road Hospital the building of the Nurses' Home and of the Continuation Department was commenced and the latter is now nearly completed. An increase of seven thousand in the numbers attending as out-patients is an indication of the necessity for this work. A commencement has been made with the reorganisation of the laundry.

The reconditioning of Blocks " F " and " G " at Mill Road Infirmary for the reception of Venereal patients is now well in hand. The additional wards thus provided will permit the reception of about 40 patients of either sex in close proximity to the clinic, thus increasing the efficiency of both units. The total cost of this alteration will be about £4,000. A new building of equivalent size would probably have cost £30,000 to £40,000. The relief afforded by transfer of patients from Belmont Road Institution will enable certain rearrangements to be made there that will permit the establishment of a much-needed clinic for lupus cases, a distressing and deforming disease for which there is no adequate means of treatment in the city.

At Kirkdale Homes a new dining room in the West Block allows of some classification of the epileptic and certified patients during meal times.

At Belmont Road Institution the new stores are now completed, and have proved a very serviceable unit. They include a refrigerator for meat and a refrigerated milk room. The removal of the stores from the old building has permitted the re-arrangement of the latter entirely as a clothing store; this clothing store is largely used for the distribution of clothing to persons in receipt of out-relief.

Progress has also been made with the building of a much-needed mortuary and post-mortem room. At the laundry a well-designed dining-room and cloak-room for the laundry workers bring the facilities up to modern requirements. In the laundry the overload on the boilers has been relieved by the use of electric motors but the whole laundry requires to be replanned.

At Alder Hey Children's Hospital the principal construction has been the enlargement of the kitchen and annexes. The principal alterations are:—

- (i) Extension and rearrangement of the kitchen.
- (ii) Placing the coke-oven in a side-chamber so that it can be stoked from outside.
- (iii) Provision of a milk laboratory and diet-kitchen; the milk laboratory being equipped with bottle-washing and sterilising plant which will enable the infants' feeds to be prepared centrally.
- (iv) Provision of a sister's dining room.
- (v) Serving room for nurses' and sisters' dining rooms.
- (vi) Additional bed-rooms for domestic staff in replacement of those in a building which has to be pulled down for street widening.
- (vii) Reproduction of stores and other rooms now converted to other purposes just mentioned.

A ward (A.2) at Alder Hey Hospital was converted into cubicles for isolation purposes thus providing 12 single-bedded and four double-bedded cubicles. The necessary equipment of sterilizers for utensils has also been installed. One of the cubicles is to be used for the reception of premature babies, being specially heated for this purpose.

At Olive Mount Children's Hospital cubicles have also been formed in the Receiving Block, 26 cubicles, 18 single and 8 double together with two small side-wards being provided. This has enabled the very small children who are received into the hospital being isolated until the incubation period of the various infectious diseases—especially measles and whooping cough—which they are liable to introduce into the hospital, has been passed.

A central heating plant has been constructed at Olive Mount for Hospital Blocks, A, B, C and D. This plant is both efficient and economical and has replaced a system of heating the blocks individually which was neither. It will enable open air methods of treatment to be practised which the ineffectual heating of the wards frequently rendered impracticable. The modernisation of these blocks is now approaching completion.

At Mill Road Infirmary the condition of the boilers necessitated their replacement. The whole instalment has been overhauled, a larger boiler-house and a new and taller chimney being required. At Walton Hospital a third Lancashire boiler has been placed in position and a 200 kilo-watt generator provided to meet the growing electrical requirements of the hospital. The use of electricity for such purposes as X-ray apparatus, diathermy, sterilisers and water-heaters for the wards, makes an added call upon the electrical generating plant. The additional boiler diminishes the evolution of smoke which at Walton Hospital frequently constituted a nuisance.

The 80 kilo-watt generator displaced from Walton Hospital has been transferred to Broadgreen Sanatorium where it is proving a serviceable addition. The inadequacy of the heating plant which was demonstrated during severe weather in the winter of 1933-34 necessitated a complete remodelling of the central heating plant; as at Olive Mount this modern installation is not only efficient but economical, effecting a considerable saving in the annual consumption of coal.

The new central dining room at Broadgreen Sanatorium is under construction and it is believed will lead to economy. Certain extensions of the heating ducts will be needed in order to have a uniform distribution of hot water to the Nurses' Home, etc., and provision has been made for this purpose in the annual estimates.

At Cleaver Sanatorium a waiting-room has been built at the entrance for the use of the children whose parents are visiting patients in the wards. An extension of 12 beds in the Nurses' Home together with an enlargement of the Nurses' recreation room is now in progress. Certain improvements in the school were also carried out.

At Walton Hospital the diminution in the numbers of inmates has permitted the conversion of two of the dormitories into isolated cubicles, these being available for sick staff or for patients requiring isolation. One of the dormitories has been plastered and is used as an overflow ward. The walls of the top corridor have been plastered.

Additional bedrooms for the medical staff have been made at Smithdown Road Hospital and the Alder Hey Children's Hospital to accommodate the additions to the resident medical staff permitted in the report on the development of hospital services.

Laundries.

The greater resort to the hospitals leads to greater demands upon the laundries. A more rapid turnover of the patients leads to an increase in the washing of bed linen even without any increase in the number of beds occupied. There is also an increase in the staff laundry owing to increases in the nursing and clinic staffs, and the greater use of overalls for bed-isolation and cubicle nursing has a similar effect. Increased admissions of bed-ridden and incontinent old people follow upon the increasing longevity of the population. All these influences have affected the work of the laundries, and for certain purposes special plant is required.

An efficient laundry must be of adequate size to justify the complete equipment of machines. The flow should be continuous and unidirectional from the point of entry of the soiled linen to the sorting room. The calenders should be adequate in size and drying power to dry the clothing in one passage without any reversal of the flow. Some classification of the laundries in relation to the articles washed is desirable.

During the year it was decided that the laundry from Mill Road Infirmary should go to Walton Hospital and that from Kirkdale Homes to Belmont Road Institution in order that materials of comparable nature should be washed together. This alteration is not, however, possible without some rearrangement at Belmont Road Institution laundry, which is, in any case, required.

The efficiency of the several laundries is, other things being equal, reflected in the prices per 1,000 articles washed. The character of the washing, however, such as the size and nature of the articles washed, varies considerably from one laundry to another. The retention of out-of-date machinery in the laundries probably accounts for much of the differences in cost and is very uneconomical. Walton Hospital laundry is probably the best equipped and as the number of articles washed approaches five million per annum, this is reflected in the cost per 1,000 articles. The laundry at Broad Green Sanatorium is structurally adequate for a much larger turnover than is actually dealt with; much of the machinery is, however, antiquated, but with further replacements it should become a very efficient unit.

Both at Belmont Road Institution and Smithdown Road Hospital the lay-out of the laundries is defective and does not permit of continuous flow. During the year a scheme for the entire re-organisation of the laundry at Smithdown Road was prepared by the Land Steward and Surveyor and the reconstruction has now begun. The work will probably require two years to complete and will cost about £11,530. The section now in progress includes a mess-room for laundry workers, etc.

At the Fazakerley Isolation Hospital the laundry deals with the washing from the adjacent Sanatorium. The machinery is now no longer up to a modern standard and requires considerable replacement. When this has been done it should be capable of receiving the washing from Sparrow Hall Hospital. In view of the decision of the Council, to which the Ministry of Health has expressed concurrence, that the Annexe should be available for use as a smallpox hospital, it will be necessary to retain the laundry at the Annexe.

With the completion of these alterations it should be possible to close some, or all, of the laundries at the three smaller isolation hospitals should the Committee desire to take this course.

Tuberculosis.

There was a considerable reduction in the number of cases of tuberculosis admitted into the Sanatoria and hospitals during 1934 compared with the preceeding year. This reduction in admissions corresponds to a genuine reduction in the numbers of cases and of deaths. The reduction in non-pulmonary tuberculosis, especially in children, is particularly marked and has permitted a concentration of these cases at Alder Hey Hospital; a certain number of glandular and abdominal cases have been received into the Cleaver Sanatorium. Any further reduction in surgical tuberculosis in children will enable the children's block at Fazakerley to be freed for the reception of severe pulmonary cases, thus liberating two wards at Broadgreen Sanatorium, at present used for this purpose, for the use of adults.

The number of pulmonary cases in adults also shows some reduction and has enabled K Ward in the Isolation Hospital at Fazakerley to

CLASSIFICATION OF IN-PATIENTS WHO WERE DISCHARGED FROM OR WHO DIED IN TRANSFERRED INSTITUTIONS DURING THE YEAR ENDED 31st DECEMBER, 1934.

Disease Groups.	SMITHDOWN ROAD.		WALTON.		MILL ROAD.		ALDER HEY.		OLIVE MOUNT.		KIRKDALE HOMES.		BELMONT ROAD.		SEAFIELD.		CLEAVER SANATORIUM.		1934.		1933			
	Dis- charged.	Died.	Dis- charged.	Died.	Dis- charged.	Died.	Dis- charged.	Died.	Dis- charged.	Died.	Dis- charged.	Died.	Dis- charged.	Died.	Dis- charged.	Died.	Dis- charged.	Died.	TOTAL.		GRAND TOTAL	TOTAL		GRAND TOTAL
																			Dis- charged	Died		Dis- charged.	Died	
Acute Infectious Disease	28	8	585	32	91	10	285	90	853	58	—	—	132	1	—	—	—	—	1,974	199	2,173	3,245	347	3,592
Influenza	85	—	73	1	62	6	31	—	—	—	—	—	9	—	—	—	—	—	260	7	267	760	60	820
Tuberculosis—																								
Pulmonary	52	10	347	217	82	20	66	12	—	—	—	—	9	—	1	—	116	1	673	260	933	778	277	1,055
Non-Pulmonary.....	14	3	88	16	30	9	213	43	—	—	—	—	3	—	—	—	84	—	432	71	503	403	85	488
Malignant Disease	108	150	389	346	104	87	1	2	—	—	1	1	3	8	—	—	—	—	606	594	1,200	641	533	1,174
Rheumatism—																								
(1) Acute Rheumatism (Rheumatic Fever) together with sub-acute Rheumatism and Chorea	102	—	210	2	108	1	642	4	—	—	—	—	8	—	—	—	—	—	1,070	7	1,077	812	8	820
(2) Non-articular manifestations of so-called “Rheumatism” (muscular rheumatism, fibrositis, lumbago and sciatica).....	110	—	97	—	56	—	—	—	—	—	7	—	7	—	—	—	—	—	277	—	277	457	3	460
(3) Chronic Arthritis	103	—	184	2	115	2	3	—	—	—	2	—	8	—	—	—	—	—	415	4	419	650	33	683
Venereal Disease	30	4	181	7	26	8	5	5	—	—	—	—	229	2	—	—	—	—	471	26	497	454	17	471
Puerperal Pyrexia	2	—	137	—	19	—	—	—	—	—	—	—	—	—	—	—	—	—	158	—	158	100	1	101
Puerperal Fever—																								
(a) Women confined in hospital	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	4	3	7
(b) Admitted from outside	4	—	8	20	1	—	—	—	—	—	—	—	—	—	—	—	—	—	13	20	33	11	15	26
Other diseases and accidents connected with Pregnancy and Childbirth	228	41	1,012	8	541	5	—	—	—	—	—	—	—	—	—	—	—	—	1,781	54	1,835	1,748	113	1,861
Mental Diseases—																								
(a) Senile Dementia	34	1	15	1	3	—	—	—	—	—	68	89	50	12	—	—	—	—	170	103	273	190	131	321
(b) Other.....	1,111	10	89	2	4	—	6	—	—	—	74	15	—	—	19	—	—	—	1,303	27	1,330	1,165	12	1,177
Senile Decay	103	51	93	13	8	—	—	—	—	—	—	18	86	10	—	—	—	—	290	92	382	249	108	357
Accidental Injury and Violence	571	37	762	51	778	40	842	13	—	—	—	—	—	—	—	—	—	—	2,953	141	3,094	2,883	130	3,013
In respect of cases not included above :—																								
Disease of the Nervous System and Sense Organs	402	135	637	109	318	67	788	47	—	—	—	1	52	5	—	—	—	—	2,197	364	2,561	2,317	360	2,677
,, ,, Respiratory System	745	251	1,472	334	750	145	1,964	203	—	—	6	10	44	26	—	—	—	—	4,981	969	5,950	5,030	1,127	6,157
,, ,, Circulatory ,, 	482	343	954	280	422	113	98	34	—	—	3	24	92	273	—	—	—	—	2,051	1,067	3,118	1,786	963	2,749
,, ,, Digestive ,, 	1,035	51	1,827	82	1,223	51	1,441	198	—	—	—	—	25	12	—	—	—	—	5,551	394	5,945	5,659	483	6,142
,, ,, Genito-urinary,, 	507	75	931	96	682	67	415	7	—	—	1	—	13	1	—	—	—	—	2,549	246	2,795	2,312	286	2,598
,, ,, Skin	275	5	735	11	385	5	164	8	—	—	—	—	2,304	2	—	—	—	—	3,863	31	3,894	3,720	31	3,751
Other Diseases	208	14	617	164	413	69	977	51	—	3	—	—	90	1	—	—	—	—	2,305	302	2,607	2,442	233	2,675
Mothers and Infants discharged from Maternity Wards and not included in above figures—																								
Mothers	1,709	—	2,000	—	1,372	—	—	—	—	—	—	—	—	—	—	—	—	—	5,081	—	5,081	4,522	—	4,522
Infants	1,365	—	1,873	—	1,296	—	—	—	—	—	—	—	—	—	—	—	—	—	4,534	—	4,534	3,977	—	3,977
Any persons not falling under any of the above headings	10	—	461	2	4	—	—	—	—	—	—	—	—	—	1	—	—	—	476	2	478	515	2	517
TOTALS	9,421	1,189	15,777	1,797	8,893	705	7,941	717	853	61	162	158	3,164	353	23	—	200	1	46,434	4,981	51,415	46,830	5,361	52,191

revert to its original purpose. The diminution in numbers received has been offset by an increase in the average length of stay. Contrary to what holds good in the General Hospitals this increased duration of stay points to greater efficiency in the methods of treatment available and given. The greater use of collapse therapy methods such as the induction of artificial pneumothorax, has alleviated cases formerly intractable; the prolongation of stay is an indication of prolongation of life in many cases. The direction of progress on these lines is towards the greater use of surgical methods. Accordingly provision is made in the ensuing year's estimates for a treatment block at Fazakerley Sanatorium where a new operating theatre and two small wards adjacent to the X-Ray building will enable these methods to be used under the most favourable conditions.

One of the most distressing conditions is the form of tuberculosis of the skin known as lupus. A considerable number of patients suffering from this condition are receiving treatment of an inadequate character at Belmont Road Skin Clinic. The only effective method available is by means of the Finsen light and provision has been made in the estimates for the ensuing year for the installation of the necessary equipment at the Clinic.

SANITATION.

SANITARY ADMINISTRATION.

Complaints of Nuisances.

The district sanitary inspector visits, at the earliest possible moment, all premises where a nuisance is complained of, and on his report an informal notice is served upon the person responsible for the nuisance. If this notice is not complied with the matter is referred to the prosecuting inspector, upon whom is placed the responsibility of seeing that the nuisance is abated.

The number of occasions upon which the advice and assistance of the health department is sought fluctuates year by year; in 1910 they were 9,354; in 1920, 18,730; in 1930, 21,478; in 1931, 20,636; in 1932, 16,436; in 1933, 14,620, and in 1934, 16,246. Complaints in many cases were made to the department only after repeated requests addressed to the persons causing or allowing the nuisance, or to the owners or agents of property, had been ignored. A great deal of the time of the inspectors is taken up by these special examinations.

Requests to examine important public buildings and offices, as well as highly-rented dwelling-houses, are numerous, and the application of the smoke test has in many cases brought to light defects in the drainage system.

During the year, 20,994 nuisances were discovered as the result of complaints.

House-to-House Inspection.

One of the most important duties placed upon sanitary authorities is that of house-to-house inspection. The Public Health Act provides that this should be done systematically, and the importance of the work is indicated by the extent to which house-to-house inspection is carried out, the number of houses inspected during the year being no fewer than 45,687.

The value of this work is also recognised by owners of property who prefer to receive all notices at the same time, thus avoiding the

unnecessary expenditure which would result if the notices were served at different periods.

In the course of house-to-house inspection, 36,195 nuisances were discovered, to remedy which preliminary notices were served on either the owner or the occupier. A number of defects was also referred to other departments.

On re-inspection, the number of nuisances found not abated was 10,289, and statutory notices were served to remedy them. These were again re-inspected by the district inspectors, and those found not abated were referred to the prosecuting inspectors for further action.

Inspection of Nuisances.

The following is a summary of the work of the district sanitary inspectors :—

Number of complaints made by inhabitants...	...	...	16,246
„ nuisances discovered on above complaints	...	...	20,994
„ „ „ on house to house inspection	...	...	36,195
Total			57,189
„ visits by district sanitary inspectors to			
re-inspect above nuisances	...	...	25,795
„ notices issued (owners)	...	...	38,728
„ „ „ (occupiers)	...	...	156
Total			38,884
„ visits to premises under observation	...	...	8
„ incidental calls	...	...	30,799
„ visits made by prosecuting inspectors to			
re-inspect nuisances	...	...	58,872
„ notes sent to comply with notices	...	...	3,486
„ informations laid	...	...	96
„ magistrates' orders	...	...	8
Number fined	...	...	11
„ acquitted or withdrawn	...	...	47

All nuisances were subsequently found abated.

Departmental References.

The co-operation which the Public Health Department receives from other departments of the Corporation is fully appreciated, and as a result many sanitary defects are brought to notice, and at once dealt with by the Department. Were it not for this early intimation it is possible that defects might remain undiscovered until such time as the district inspector visits the premises in the course of house-to-house inspection.

References from other Departments.

From the City Engineer	...	...	...	...	...	586
„ „ Water Engineer	...	...	...	...	...	5,352
„ „ Education Department (suspected infection in school children)	...	...	...	...	...	7,443

The officers of the Health Department co-operate with other departments by referring to them matters which are outside the scope of the Health Department, such as waste of water, choked street gullies, defective street and passage pavings, dangerous walls, floors and roofs.

References to other Departments.

To the City Engineer	...	...	...	...	...	2,687
„ „ Building Surveyor	...	...	...	...	...	2,610
„ „ Water Engineer	...	...	...	...	...	3,799
„ „ Education Department (school children suffering from infectious diseases)	...	...	...	...	...	26,564
„ „ Food Inspectors	...	...	...	...	...	20
„ other departments	...	...	...	...	...	1,111

Infected Houses.

The following table shows the number of houses visited where notifiable infectious diseases have occurred, with the number of visits made by sanitary inspectors to these houses, and to houses where cases

of non-notifiable infectious diseases have been reported to the Health Department by the Education Department :—

Number of houses where infectious diseases occurred	...	29,543
„ visits to infected houses (notifiable cases)	...	29,492
„ „ „ „ „ (school cases)	...	7,738
„ „ and re-visits to phthisis cases	...	5,609
„ enquiries re suspected smallpox contacts	...	10

Court and Alley Examinations.

Number of inspections of courts and alleys	...	11,796
„ „ water closets	...	20,921
„ water closets found dirty, but afterwards cleansed on inspectors' instructions	...	7,182

Cellars.

In view of the shortage of housing accommodation there is a tendency to re-occupy cellars as separate dwellings, many of which have been closed for several years; an annual inspection is therefore made of all cellars, and if any are found re-occupied, the usual notice is served.

Examination of Cellars and Cellar Dwellings.

Number of inspections of street cellars	...	12,278
„ found illegally occupied	...	43
„ of notices issued to cease letting or occupying	...	44
Number of cellars at present unoccupied	...	461
„ occupied as kitchens or wash-cellars	...	422
„ occupied as kitchens and separately let with the front parlour	...	115
„ permanently closed	...	487
„ demolished	...	36
*Number of cellars, occupied as separate dwellings, 31st December, 1934	...	93

* The number of cellars occupied as separate dwellings at 31st December, 1912, was 1,614.

Offensive Trades.

There are 67 offensive trades carried on in the city, viz., 3 bone boilers, 7 dripping factories, 10 fat and tallow melters, 1 fell monger, 2 fertilizer works, 5 gut scrapers, 8 hide and skin works, 2 lard refiners, 2 paint and resin works, 1 palm oil works, 13 soap boilers, 5 tanneries, 2 knackers yards, 5 tripe boilers, and 1 tar naphtha works.

When permission is granted to carry on an offensive trade, conditions are imposed requiring that the premises be put in order to the satisfaction of the City Engineer, Building Surveyor and Medical Officer of Health, that no public or private nuisances be caused, and that the business be discontinued whenever the Council shall so require.

During the year the number of inspections of premises where offensive trades are carried on was 1,437.

Inspection of Stables and Removal of Manure.

Stables within the city are systematically visited by two inspectors: a great portion of whose time is devoted to the work, constant attention being paid to the frequent removal of the manure and to general sanitation.

Leaflets are served on the occupiers of stables intimating the grave danger to public health which may arise from flies, and the necessity of adopting all possible precautions and of attacking their breeding places. The co-operation of the occupiers of all stables is asked, in order that the means adopted by the Health Committee for the extermination of flies may be successful, and as a result, in a large number of cases, middensteads have been dispensed with, the manure being removed daily by the City Engineer's Department.

The Medical Officer of Health has communicated with the occupiers of all stables with a view to securing their co-operation in connection with the removal of manure.

The total number of visits to stables during the year was 8,145.

Middensteads in connection with stables are systematically sprayed with lime, by the disinfecting staff, to check the breeding of flies, and the number of occasions when spraying took place during the year was 8,702.

During the year all the premises formerly occupied as stables have been re-visited, and the following figures indicate the position to date:

Number of stables existing and in use	...	...	...	1,066
„ „ unoccupied and disused	...	...	...	1,574
„ horses	...	...	...	4,168
„ middensteads	...	...	...	722

The manure depots are situated in close proximity to the North Corporation Destructor, and visits are made to them to see that the manure which has been received from the stables in the centre of the city is frequently removed so as to avoid the possibility of breeding places for flies.

During the year 58 visits have been made to manure depots.

The Licensing of Places for Keeping Cattle.

(Liverpool Corporation Act, 1921.)

Under Sections 475 to 483 of the Liverpool Corporation Act, 1921, every person who keeps cattle shall be required to hold a licence from the Corporation both in respect of himself and also in respect of the premises. On the licence shall be stated the number and description of the animals. The expression "cattle" includes bulls, cows, heifers, oxen, calves, rams, sheep, wethers, ewes, lambs, swine and goats and all other ruminating animals. The Corporation is required to keep a register of the licences granted, in which are entered particulars of the premises and the cattle.

In the following table is a summary of the register of licences in respect of pigs.

REGISTRATION OF PREMISES ON WHICH PIGS ARE KEPT.

	End of 1933.	End of 1934.
Number of licensed piggeries	130	106
Number of pigs specified on the licences	4,532	4,311
Approximate average number of pigs kept	3,000	2,300

During the year, three new licences to keep pigs were applied for involving the keeping of 237 pigs. One application was granted and two were refused on site and structural grounds. No licences were transferred from one person to another.

During the year, 570 visits of inspection to piggeries were made. Nine piggeries visited were the subject of notices drawing the attention of the occupiers to contraventions of the Liverpool Corporation Act, 1921, and in every case the notice was complied with.

A comparison of the numbers of licensed piggeries during the years 1930-1934, together with the numbers of pigs to which the licences referred, is given in the following table:—

A COMPARISON OF THE NUMBERS OF PIGGERIES AND PIGS LICENSED DURING THE YEARS 1930-1934.

Year.	Number of licensed piggeries.	Number of pigs approved.
1930	143	4,678
1931	131	4,543
1932	133	4,777
1933	130	4,532
1934	106	4,311

In farms situated in the outer districts of the city, premises registered for the keeping of milch cows, may be used also for keeping store cattle. At the end of 1934, 393 store cattle were kept on registered premises.

Rats and Mice (Destruction) Act, 1919.

Active measures have been taken within the city throughout the year to ensure the destruction of rats, and to bring to the notice of the public the necessity of reducing the rat population to the lowest possible dimensions. There are special reasons for a constant campaign against rats in Liverpool. One reason is the possibility of the spread of plague, a disease which may be brought into the port on ships arriving from foreign countries. The destruction and damage to property, foodstuffs, etc., by means of rats further justifies the stringent measures which are constantly being taken against these vermin. In this connection the co-operation of warehouse owners and occupiers of rat-infested premises is always sought and obtained.

Ten rat-catchers are constantly employed, four being engaged in warehouses, which are visited every three months, in accordance with arrangements made with the Ministry of Health, and six rat-catchers systematically visit cafés, fried fish shops, grocery shops, foodstores, bread shops, and other places where rats are likely to be found. When a rat-catcher visits rat-infested premises, he operates for a few days, and indicates to the occupier methods whereby he can help in the extermination of rats. In the event of the occupiers failing to take action a notice is served under the Rats and Mice (Destruction) Act, 1919.

The assistance given by the rat-catchers is appreciated by occupiers and owners of premises, who are always willing and anxious to forward the extermination of rats. To save the time of the rat-catchers and to provide for the destruction of the rats as quickly as possible, each rat-catcher is met at a certain place every morning, the rats being collected and labelled and a proportion taken the same day for examination by the City Bacteriologist.

The City Engineer's Department has also done valuable work in catching rats in public sewers, the rats being collected and dealt with in the same way.

It has not been found necessary to take any proceedings for non-compliance with the provisions of the Rats and Mice (Destruction) Act, 1919.

Number and Species of Rats caught in the City and Port of Liverpool, during the year 1934.

1934.	Warehouses.		Sewers.		Other Places		Total.		Ships.		Quays.		Other Sources.		Total.	
	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.
January ...	47	142	—	786	—	218	47	1,146	347	2	121	4	28	6	496	12
February ...	34	145	—	749	23	211	57	1,105	159	—	95	3	21	16	275	19
March ...	37	206	—	909	15	272	52	1,387	219	—	147	3	18	3	384	6
April ...	165	148	—	794	13	271	178	1,213	240	—	168	38	17	10	425	48
May ...	214	116	—	870	5	367	219	1,353	95	—	228	17	40	6	363	23
June ...	89	112	—	950	61	290	150	1,352	196	—	158	8	60	23	414	31
July ...	71	144	—	918	13	342	84	1,404	197	—	170	37	44	10	411	47
August ...	31	126	—	849	47	343	78	1,318	172	—	111	14	64	1	347	15
September ...	63	171	—	963	23	306	86	1,440	173	—	205	4	37	1	415	5
October ...	59	176	—	952	27	275	86	1,403	444	—	281	7	81	16	806	23
November ...	33	136	—	878	26	256	59	1,270	308	—	144	12	67	10	519	22
December ...	21	168	—	718	12	281	33	1,167	187	—	137	9	37	18	361	27
TOTAL ...	864	1,790	—	10,336	265	3,432	1,129	15,558	2,737	2	1,965	156	514	120	5,216	278

Number and Species of Rats examined or destroyed in the City and Port of Liverpool during the year 1934.

1934.	Examined (City).		Destroyed (City)		Examined (Port).		Destroyed (Port).		Total Caught.
	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	City and Port.
									Black and Brown.
January ...	7	248	40	898	234	9	262	3	1701
February ...	8	215	49	890	222	19	53	—	1,456
March ...	4	242	48	1,145	243	6	141	—	1,829
April ...	30	240	148	973	230	19	195	29	1,864
May ...	27	274	192	1,079	273	14	90	9	1,958
June ...	18	237	132	1,115	268	31	146	—	1,947
July ...	6	224	78	1,180	264	45	147	2	1,946
August ...	6	251	72	1,067	206	14	141	1	1,758
September ...	16	268	70	1,172	286	5	129	—	1,946
October ...	11	305	75	1,098	432	22	374	1	2,318
November ...	4	237	55	1,033	341	20	178	2	1,870
December ...	3	178	30	989	260	23	101	4	1,588
TOTAL	140	2,919	989	12,639	3,259	227	1,957	51	22,181

Special Visits.

Complaints are occasionally received from passengers directing attention to the dirty condition of railway carriages. These carriages are from time to time inspected, and if they are found in an unclean condition the railway company concerned is informed and the matter receives prompt attention.

There are 700 fried fish shops within the city, all of which are visited systematically to see that the requirements of the Byelaws are carried out.

Number of visits to railway carriages	...	...	...	61
„ „ „ platforms (fish arrivals)	...	...	...	26
„ „ poultry depots	...	...	...	594
„ „ marine stores	...	...	...	739
„ „ fried fish shops	...	...	...	2,385

Picturedromes.

At the request of the Licensing Justices, officers of the Health Committee systematically visit all picturedromes to see that the means provided for the ventilation of the auditorium is in use, attention also being directed to the condition of the sanitary conveniences, provision of seats for the attendants, the general cleanliness of the premises, and the water supply. A female inspector also makes systematic visits to inspect the sanitary conveniences used by females.

During the year 610 night visits were paid, and on each occasion the premises were found to be in a satisfactory condition. A day inspection is also made so that closer attention may be given to the examination of the sanitary conveniences.

Rag Flock Acts, 1911 and 1928.

There are two factories in which rag flock is manufactured in this district. Five visits have been made and two samples of rag flock have been taken, which were in accordance with the standard of cleanliness required by the rag flock regulations. Twenty-seven visits have been made to premises where rag flock was used and eight samples were taken, which were in accordance with the regulations.

Factory and Workshop Act, 1901.

Factories, Workshops, and Workplaces—All factories, workshops and workplaces are visited by four inspectors appointed under the Act, the various premises being grouped in districts so as to secure the maximum number of visits in the minimum time.

Total number of factories	...	...	...	...	...	2,235
„ workshops	...	...	...	...	...	2,771
„ workplaces	...	...	...	...	...	340
„ visits to factories (including factory bakehouses)	...	...	...	...	...	6,654
„ visits to workshops (excluding work shop bakehouses)	...	...	...	...	...	8,786

Bakehouses.—The number of bakehouses in use at the end of the year was 523, of which 337 were workshop bakehouses, 18 of them being underground, and 186 factory bakehouses, 39 being underground. Since the passing of the Factory and Workshops Act, 1901, 343 underground bakehouses have been closed.

During the year 2,682 visits were paid to bakehouses.

Number of occasions on which bakehouses were found incorrect	99
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Limewashing and painting of bakehouses (Section 99).

Occupiers requested to limewash walls and ceilings	31
„ cleanse	„	...	...	...	...	19
„ paint	„	...	...	...	...	2
New sinks provided	...	...	...	...	...	9
Fume pipes to ovens provided or repaired	...	...	...	...	...	2
Defective plaster repaired or renewed	...	...	...	...	...	15
Floors repaired or renewed	...	...	...	...	...	16
Miscellaneous defects	...	...	...	...	...	97
Number of sanitary defects found	...	...	...	...	...	191
„ notices issued	...	...	...	...	...	103

The above notices were complied with by owners or occupiers.

Restaurant and Café Kitchens.—All kitchens in connection with cafés and restaurants are regularly visited, particular attention being paid to the cleanliness of the premises and of the workers employed in the kitchen. There were 322 in use at the end of the year.

Total number of visits during the year	...	...	...	914
Number found incorrect	...	...	...	49
„ linewashed or walls and ceilings cleansed	...	...	...	10
„ painted and walls and ceilings papered	...	...	...	2
„ of new sinks provided and fixed	...	...	...	3
„ defective plaster repaired or renewed	...	...	...	5
„ miscellaneous defects	...	...	...	29

Homework.—In accordance with the provisions of the Act, outworkers' returns are received twice yearly, and the premises referred to in the returns are visited by the district sanitary staff to ascertain the sanitary condition of the premises, and if the premises are used as “workshop” or “domestic workshop.” The following statement shows the work undertaken during the year, viz.:—

Number of outworkers' returns received	...	...	...	157
„ visits to premises	...	...	...	79
„ premises incorrect	...	...	...	—

**Administration of the Factory and Workshop Act, 1901, in
connection with
Factories, Workshops, Workplaces and Homework**

The following Tables are prepared by request of the Secretary of State:—

1.—Inspection of Factories, Workshops and Workplaces.

Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.

Premises.	Number of		
	Inspections.	Written Notices	Occupiers Prosecuted.
<i>Factories</i> (Including Factory Laundries.)	6,654	238	—
<i>Workshops</i> (Including Workshop Laundries).	11,516	571	—
<i>Workplaces</i> (Other than Outworkers' premises).	2,929	54	—
TOTAL... ..	21,099	863	—

2.—Defects found in Factories, Workshops and Workplaces.

Particulars.	Number of Defects.			Number of offences in respect to which Prosecutions were instituted.
	Found.	Remedied.	Referred to H.M. Inspector.	
<i>Nuisances under the Public Health Acts :*</i>				
Want of cleanliness	382	382	—	—
Want of ventilation	55	55	—	—
Overcrowding	7	7	—	—
Want of drainage of floors ..	20	20	—	—
Other nuisances	528	528	14	—
Sanitary accommodation—				
Insufficient	70	70	—	—
Unsuitable or defective	319	319	—	—
Not separate for sexes	34	34	—	—
<i>Offences under the Factory and Workshop Acts :—</i>				
Illegal occupation of underground bakehouse (s. 101)... ..	1	1	—	—
Other offences	—	—	—	—
(Excluding offences relating to outwork and offences under the sections mentioned in the Schedule to the Ministry of Health (Factories and Workshops Transfer of Powers) Order, 1921)				
TOTAL	1,416	1,416	14	—

*Including those specified in sections 2, 3, 7 and 8 of the Factory and Workshop Act, 1901, as remediable under the Public Health Acts.

3. *Administration of Factories, Workshops and Workplaces,
Registered Workshops, etc.*

Workshops on the Register at the end of the year.	Number.
Workshops 	2,771
Workshop Bakehouses 	337
Factory Bakehouses 	186
TOTAL ...	3,294

4. *Other matters.*

Class.	Number.
Matters notified to H.M. Inspector of Factories :— Failing to affix Abstract of the Factory and Workshop Act, 1901 (S.133)	25
Action taken in matters referred by H.M. Inspectors as remediable under the Public Health Act, but not under the Factory and Workshop Act (S.5), 1901. (Notified by H.M. Inspectors. Reports (of action taken) sent to H.M. Inspector)	53
Other Reports to H.M. Inspectors	9
Underground Bakehouses (S.101) :— Workshop Bakehouses in use at the end of the year	18
Factory Bakehouses in use at the end of the year	39
Homework—Secs. 107 to 110 :— Employers failing to keep list of outworkers (Form 44)... ..	Nil
Notices served on employers for failing to keep or send in lists	Nil
List of outworkers not received	Nil
Cases of outwork in infected and unwholesome premises	Nil
Outworkers visited	79
Prosecutions for failing to send in list of outworkers	Nil
Limewashing and painting of Bakehouses (S.99) :— Occupiers requested to limewash or cleanse walls and ceilings of bake-houses	52

Shops Acts, 1912-1930.

In accordance with the provisions of the Shops Acts, a register of all shops within the city is kept up to date by systematic visitation. The Health Committee has made 15 half-holiday orders, and nine closing orders under the Act, and day and night visits are made to see that the provisions of these orders are carried out.

With regard to the half-holiday orders, the majority of the shops are closed at 1.0 p.m. on Wednesdays.

An Order has been made by the City Council suspending the closing hour on the Thursday preceding Good Friday each year, for the retail sale of fish, game and vegetables, also the retail business of bread and flour dealers.

A female inspector, in addition to her duties under the Shops Acts, has also carried out the provisions of the order made by the Ministry of Health (Circular 235) with reference to "prohibition of the employment of women after childbirth," and in this connection 327 visits have been made to factories and workshops within the city. In each case, the female overseer was interviewed and the requirements of the order explained and, as a result of the visit and explanation, it may be anticipated that every precaution will be taken to see that the provisions of the order are carried out.

Shops Act, 1934.

The Shops Act, 1934, came into operation on the 30th day of December, 1934, and is an Act designed to protect young people, and to prevent employment putting undue stress upon their health. The objects of the Act are twofold.

In the first place, it contains provisions for regulating the hours of young persons between 14 and 18 years of age, employed in the distributive trades. The effect will be to bring within the Shop Acts a large number of young persons, not previously classed as Shop Assistants, who are employed "about the business" of shops and warehouses, but to whom Section 1 of the Shops Act, 1912, has *not* applied. The scope is wide, and generally speaking applies to all young persons employed indoors in retail and wholesale shops and warehouses, and also to those employed out of doors about the business of these establishments. In some cases, however, young persons, although engaged in similar occupations, still remain unregulated, for example, young persons employed in domestic service, or in offices, unless such offices are connected with shops or warehouses, whose hours are not subject to any, or to any sufficient legislative regulations.

This Act has extended the definition of Shop Assistant, so as to include all young persons engaged about the business of a shop employed in the service of customers, receipt of orders, the handling, dispatch, collection or delivery of goods, and the clerical work of the shop, in the service or preparation of food in a restaurant, or in carrying messages or running errands or employed by the occupier in cleaning or maintenance work.

In the second place, the Act contains provisions for improving the conditions affecting the health and comfort of *all* persons, of whatever age, who are employed about the business of wholesale and retail shops and warehouses. These provisions deal with ventilation, temperature, sanitary conveniences, lighting, washing facilities, and, where meals are taken in the shop, facilities for the taking of meals.

By reason of the extended definition of Shop Assistant, approximately 8,000 young persons have to be added to the present number of 42,000 (21,500 males and 20,500 females) Shop Assistants in this City,

and it will be necessary to check the various prescribed notices relating to young persons as to the hours of employment, overtime, restrictions of night employment, etc., at more frequent intervals than hitherto, also the issuing of notices and re-inspection, and additional Police Court work in connection with the Sanitary and Welfare clauses.

The following is a summary of changes in the law which came into operation by the passing of this Act.

- (1) The classes of young persons who come within the scope of the Shops Acts are considerably enlarged.
- (2) The hours of employment of young persons employed about the business of a shop are limited to 52 hours a week, exclusive of intervals for rest and meals (previously the period was 74 hours, inclusive of meal times, in any one week).
- (3) No overtime may be worked by young persons under the age of 16 years.
- (4) In the case of young persons between the ages of 16 and 18 years, overtime may not be worked in a shop during more than six weeks in a year, and no such young person may be employed overtime for more than 24 hours in a year, or for more than 8 hours in a week.
- (5) Restrictions are imposed on the employment of young persons at night.
- (6) The provisions of the Act apply to retail trading elsewhere than in shops, for example, street trading.
- (7) There are special provisions as to the employment of young persons between the ages of 16 and 18 years in the catering trade, also in the business of serving customers with supplies or accessories for aircraft, motor vehicles or cycles sold for immediate use.
- (8) In the case of young persons employed about the business of a shop, records must be kept of hours worked, intervals allowed for rest, and overtime; and there are special provisions as to

any persons employed wholly or mainly in connection with any retail trade or business carried on in a theatre.

- (9) The provisions of Section 1 of the Act of 1912, relating to weekly half-holidays and intervals for meals, are to apply to young persons wholly or mainly employed about the business of a shop, or in connection with any trade or business carried on in any place not being a shop.
- (10) The Act contains provisions as to ventilation, temperature, sanitary conveniences, means of lighting, washing facilities, and facilities for taking meals in a shop.

Employment Agencies.

These premises are controlled by Byelaws made under the Liverpool Corporation Act, 1927, and visits are made from time to time to ascertain that the requirements of the Byelaws are being carried out. There are at present 42 licensed Employment Agencies on the Register.

Liverpool Corporation (General Powers) Act, 1930, Section 27.

The above Section provides for the adequate lighting of common staircases in tenement buildings.

All staircases in tenement buildings have been inspected, and, it was found that in every instance the staircases were adequately lighted.

Common Lodging Houses.

At the end of the year 1933 there were on the register (including emigration houses), 95 lodging houses. During the year 1934, 10 houses were given up and removed from the register, and 6 new houses added, leaving, at the end of 1934, 91, providing accommodation for 4,769 lodgers.

Under Part 5 of the Public Health Acts Amendment Act, 1907, Sections 69 to 72 (adopted in 1912), 73 keepers were re-registered and 27 deputy-keepers registered.

Ten written notices were served on registered keepers, also 37 verbal notices, for infringements of the Byelaws.

Infringements of the byelaws had reference to: defects in sanitary fittings and paving, windows requiring cleansing or re-glazing, insufficient bedding and bath accommodation, verminous bedding, and rooms overcrowded, no hot water supply, choked wastepipes, gullies and w.c. basins, floors not swept or washed, slops not emptied, etc.

No informations were laid against keepers during the year.

Inspection of Lodging Houses.

Visits by day ...	...	...	...	...	...	3,018
„ night ..	...	...	...	...	...	189
„ to houses not on the register ...	...	...	...	...	...	98

Women's Lodging Houses.

There are 11 houses providing accommodation for 461 women lodgers.

Inspection of Houses let in Lodgings.

Houses on register, January 1st, 1934 ...	...	...	...	18,221
„ removed from register during 1934 ...	...	...	...	2,659
„ added to register during 1934 ...	...	...	...	3
„ on register, December 31st, 1934 ...	...	...	...	15,565

Day Visits:—

Total day visits for the purpose of registration ...	...	...	...	82,542
Rooms measured ...	...	...	...	31

Overcrowding:—

Infringements found ...	...	...	...	...	399
Re-inspections ...	...	...	...	...	1,150
Infringements abated ...	...	...	...	...	231

Non-separation of Sexes:—

Infringements found ...	...	...	...	...	159
Re-inspections ...	...	...	...	...	302
Infringements abated ...	...	...	...	...	113

<i>Floors, Stairs, etc., found dirty</i> ...	...	...	...	...	798
Cleansed on re-visit ...	...	...	...	...	661

No informations were laid during the year.

Cleansing of Walls and Ceilings.

The following notices were served on landlords of houses let in lodgings during the year under Section 7 of the 1911 byelaws: —

Preliminary notices to cleanse walls and ceilings	...	7
Statutory ,, ,, ,, ,,	...	Nil.
Houses cleansed	... ... ... ... ... ...	3
Rooms ,,	... ... ... ... ... ...	18

**Canal Boats Acts, 1877 and 1884, and Canal Boats Orders,
1878, 1922 and 1925.**

The Leeds and Liverpool Canal Company are the proprietors of the only canal having direct communication with Liverpool, and the length of the waterway within the city, exclusive of the locks which lead to the docks, is about three miles.

The number of inspections of canal boats during the year was 4,134, and the condition of the boats and their occupants as regards matters dealt with in the acts and regulations is indicated in the following table :—

Boats on register, 1st January, 1934	... ... ...	432
New Boats registered	... ... ...	38
Boats removed from register	... ... ...	46
*Boats on register, 31st December, 1934	... ... ...	424

Seventeen copies of registration certificates were issued owing to the original certificates being worn out.

Contraventions occurred on 72 boats, of which number, 16 were registered by other authorities.

*Of the 46 boats removed from the register 7 have been broken up, 4 converted to motor propelled boats, and 35 have been sold outside the district.

Nature of Contraventions:—

Unregistered boats used as dwellings	8
No certificate on board or certificate not legible ...	10
Leaky decks	8
Defective stoves or stove-pipes	21
Cabins requiring re-painting	3
Registration authority and number not painted on boat	12
Cabins occupied as dwellings	2
Dirty cabins	2
Registered number not legible	9
Defective bulkhead	1
Cabin overcrowded	1
Defective skylight	2
Defective water tanks	2
Defective scuttle cover	1
	<hr/>
	82
	<hr/>

Written notices were issued to owners in 56 instances, and verbal notices were given to owners and masters in 20 instances. Of these notices 64 have been complied with. No informations were laid during the year against owners or masters for infringement of the Acts or regulations. No case of infectious sickness was reported as having occurred during the year on any canal boat visiting the district. Forty-nine motor-propelled boats and 64 steam-propelled boats are registered by this Authority.

On May 1st, 1923, the Ministry of Health, under section 10 of the Canal Boats Act, 1884, issued an order cited as the Canal Boats Order, 1922. This order brings within the scope of the Canal Boats Acts all similar vessels which had hitherto been registered under the Merchant Shipping Acts, and consequently were exempt from inspection.

The inspectors of the Port Sanitary Authority made 580 inspections during the year and 26 contraventions were discovered, which were subsequently dealt with. These figures are included in the foregoing table.

Details of Visits to Boats Plying on the Canal.

313 boats were visited, which were registered as follows:—188 at Liverpool, 63 Runcorn, 4 Leigh, 3 Wigan, 20 Manchester, 12 Chester. Thirteen boats were not registered (not used as dwellings).

All were “wide” boats, 4 being propelled by steam, 169 steam-towed, 41 motor-driven, 48 motor-towed, and 51 horse-drawn.

The number of inspections of these 313 boats was 3,554, and the population comprised:—Men, 593; women, 35; children, 26; a total of 654 persons, the sexes and ages being as follows:—

Males over 14 years of age	...	...	...	...	593
„ „ 5 and under 14	...	...	...	...	13
„ under 5 years of age	...	...	...	...	5
Females over 12 years of age	...	...	...	...	35
„ „ 5 and under 12	...	...	...	...	5
„ under 5 years of age	...	...	...	...	3
					<hr/> 654 <hr/>

NOTE.—Males on attaining the age of 14 years, and females 12 years, living on canal boats, become adults, and are recorded as such in the above table.

(Under Reg. III, etc., Sec. 2, Canal Boats Act, 1877.)

Eighteen children of school age were found on canal boats during the year, who were on trips with their parents during the school holidays. One family was found on a boat on the canal who had not a home ashore in addition to that on board.

Ambulance and Disinfecting Staff.

There were 8,199 cases of infectious diseases removed to hospital by officers of the ambulance staff during the year. The number of rooms disinfected was 69,194, and 8,711 library books were also disinfected. The number of articles of bedding, clothing, etc., disinfected at the disinfecting apparatus was 77,463, in addition to 19,488 other articles.

Two disinfecting stations have been established in the city for a number of years, each well equipped to deal with large quantities of material. The north end of the city is served by the Charters Street station and the south end by the Smithdown Road station. When necessary the disinfecting apparatus attached to each of the city hospitals may be utilised.

Disinfestation.—Towards the close of the year arrangements were made for the disinfestation of the furniture and bedding of tenants moving into Corporation houses or flats. Suitable equipment was provided at the Ford Street Depot, and contracts entered into with two private firms to carry out the work. One firm undertook to supply suitable vans and remove the furniture. The other firm contracted to carry out the fumigation of the furniture with hydrocyanic gas. The work commenced on a small scale with two vans, but will be extended in the near future.

Mortuaries.—The Mortuary at the Prince's Dock is for the reception of the bodies of persons who have been drowned, killed or found dead, and upon which the coroner desires to hold inquests. Bodies are taken to this mortuary by the police, and when it is necessary to make post-mortem examinations. During the year the number of bodies removed to Prince's Dock Mortuary was:—From the river 9, and from the city, 222.

The method of transport of the bodies of persons killed, or found dead in the street, has been adequately provided for, the Health Committee having arranged, through the Chief Constable, with a firm of undertakers to supply a hearse on short notice, together with a shell coffin. This arrangement has proved satisfactory.

The Ford Street mortuary is provided for the reception of bodies which cannot be kept at the homes in which death has taken place, without possible injury to the health of the inmates, and it is also used for the reception of stillbirths. The number of bodies received during the year was 331.

Crematorium.

The Crematorium, which is situated in Anfield Cemetery, was opened by the Liverpool Crematorium Company in the year 1896. When the Corporation became the Burial Authority for the city, the administration was taken over in October, 1908, by the Crematorium Sub-Committee.

That cremation is steadily becoming more popular is shown by the fact that in 1885 there was one crematorium, whereas now there are 28 crematoria in this country; the total number of cremations during 1934 being 8,337.

The number of cremations which have taken place at the Liverpool Crematorium since the opening is shown in the following table:—

1896.....	2	1917.....	62
1897.....	10	1918.....	70
1898.....	27	1919.....	88
1899.....	23	1920.....	70
1900.....	40	1921.....	74
1901.....	40	1922.....	74
1902.....	54	1923.....	62
1903.....	35	1924.....	74
1904.....	40	1925.....	75
1905.....	35	1926.....	96
1906.....	46	1927.....	101
1907.....	34	1928.....	103
1908.....	32	1929.....	103
1909.....	46	1930.....	160
1910.....	37	1931.....	163
1911.....	50	1932.....	171
1912.....	52	1933.....	247
1913.....	66	1934.....	240
1914.....	49		
1915.....	53		
1916.....	58		
			<hr/>
			2,862
			<hr/>

Smoke Abatement.

The Liverpool byelaw regulating the emission of smoke, made under Section 2 of the Public Health (Smoke Abatement) Act, 1926, prescribes that the emission of black smoke for a period of two minutes in the aggregate within any continuous period of 30 minutes from any one chimney in a building other than a private dwelling-house, shall be presumed to be a nuisance. In addition, the Liverpool Corporation.

Act, 1921, Sections 472 and 473, provides penalties for the production of an unnecessary or excessive quantity of smoke by furnaces employed in working the engines of steamers on the River Mersey, or furnaces employed in the city, with certain exceptions mentioned.

With few exceptions, prolonged excessive or black smoke has become a rare occurrence in the city, and, from observations recorded, the industrial chimneys are smokeless for 54·4 minutes per hour, black smoke issues for 1·15 minutes per hour, and smoke of any density or colour for 5·6 minutes per hour.

Boiler Installations.—The greater part of the coal used for industrial furnaces in Liverpool is for the purpose of steam raising, and with few exceptions the smoke produced by boiler furnaces constitutes the whole of the industrial smoke problem. An analysis of the causes of 371 examples of excessive smoke production revealed that 234 were due to careless stoking, 50 to insufficient draught, 27 to defective condition of furnaces, 48 to an insufficiency of furnaces at work, and 12 were due to the excessive duties of the firemen.

Complaints.—During the year 56 complaints were received in respect of smoke nuisance from industrial chimneys. In 11 cases the nuisance was abated by increasing the chimney height, and in 17 other cases by structural alterations to the plant. In the remaining 28 cases, either a change of fuel was made, or satisfactory improvement brought about by regular observation and advice as to firing methods, etc. These complaints necessitated 607 visits and periodical observations.

Smoke Nuisance from Steamers.—It is from the steamer source that the most noticeable improvement regarding smoke emission has been effected. It is common for observations to be taken during the peak of the river traffic, and not a single case of excessive smoke emission to be reported.

Regular observations, the greater use of motor ships, and oil fuel fired vessels have all been important factors in the diminution of the total smoke emission from steamer sources.

During the year there were 81 reports of excessive smoke from steamers in dock and on the river, 45 of which related to foreign-going vessels. No proceedings were taken with regard to the latter class of vessel, but the owners were communicated with in respect of the nuisance.

The number of summonses in regard to the other vessels was 36, and in every case a conviction was obtained.

Domestic Smoke.—There is no legislation against domestic smoke. That a continued reduction is taking place is certain, but progress in the campaign against domestic smoke is slow, and the evils from this nuisance are visible in many districts of the city.

The demand for domestic fuel in Liverpool during the winter months is approximately 19,000 tons weekly. The demand for the solid smokeless fuels is approximately 1,000 tons per week, and is steadily increasing.

The advantages of mixing coal and coke for use in open firegrates and kitchen ranges is not fully realised, nor the influence of this practice upon the formation and emission of smoke from domestic chimneys. The effect of mixing the two fuels in equal proportions is to reduce by one half the production of domestic smoke, to lower costs, and to improve materially the radiation efficiency of the fire.

The Firing of Domestic Chimney Flues.—This year the number of convictions for this form of offence was 2,283, as against 1,997 the previous year, which shows an increase of 286 convictions. It is deplorable that certain householders wilfully fire their chimney flues or allow them to become so dirty that they inadvertently fire and clear themselves, to the detriment of the surrounding neighbourhood. House flues should be swept and cleaned at least twice per year where coal is used as fuel.

Prosecutions for this class of offence are carried out by the police, who are thus assisting greatly in the prevention of atmospheric pollution.

Smoke and Aviation.—The growing importance of Liverpool as a base and port of call for aircraft gives significance to an aspect of the smoke problem hitherto disregarded. The pilot of an aircraft travelling at high speed is affected by conditions of visibility relatively innocuous to surface transport, and it is evident that particular attention must be paid to any source of smoke emission which is in close proximity to a landing ground. In this respect special attention has been paid to industrial smoke from the Garston area as this would have a direct effect on conditions at the Speke Airport.

Lectures on Smoke Abatement and Fuel Economy.—Early in the year there was inaugurated at the University School of Hygiene a course of twenty lectures, as well as a number of practical demonstrations on Smoke Abatement and Fuel Economy, at which 119 students attended. These lectures were designed to be useful to works managers, works engineers, stokers and others interested in the efficient and economical use of fuel, and were also intended for sanitary inspectors who wished to take the examination of the Royal Sanitary Institute for smoke inspectors. For that purpose the approval by the Royal Sanitary Institute of the syllabus was sought and obtained. A second course of lectures began in November, and 81 students enrolled. Experience has shown that many firms are interested, and the course is proving to be a very successful one.

Action Taken in respect of Smoke Nuisances.

Proceedings for abatement of nuisances caused by the emission of excessive smoke from factories, steamers, etc., were taken under the Liverpool Corporation Act, 1921, Sections 472 and 473, and the Public Health (Smoke Abatement) Act, 1926.

Action under the Liverpool Corporation Act, 1921, Section 472.

Number of reports on steamers in dock	...	...	6
" " " " " " river	...	...	75
			<hr/> 81 <hr/>

Forty-five steamship owners were communicated with in respect of nuisances caused by the emission of excessive smoke, and 371 manufacturers and 52 steamship owners were cautioned for unnecessary smoke.

In addition 36 informations were laid with results as follows:—

	Discharged with costs.	Fined.	Amount of Fines.
Informations :—Steamers ...	2	34	£ s. d. 20 12 0

Action under the Public Health (Smoke Abatement) Act, 1926.

Number of chimney observations recorded	...	...	3,849
„ minutes black smoke emitted	...	...	2,213
Average minutes black smoke per hour recorded	...		1.15
„ „ all „ „ „ „	...		5.6
Number of reports for black smoke emission...	...		37
„ statutory notices issued	...	...	34
„ advisory visits	...	...	459

Proceedings were taken in two cases to obtain a magistrates' order for the abatement of the nuisance.

West Lancashire and Cheshire Regional Smoke Abatement Committee.

At a meeting of the Merseyside and District Local Authorities held on April 10, 1933, it was decided to form a Regional Advisory Smoke Abatement Committee under Section 10 of the Public Health (Smoke Abatement) Act, 1926. At the present time this Committee consists of two representatives from each of the 19 constituent authorities, namely, Liverpool, Birkenhead, Bootle, Wallasey, Chester, St. Helens, Widnes, Preston, the County of Lancashire, and the following urban and rural districts, namely, Bebington, Great Crosby, Huyton-with-Roby, Litherland, Neston, Ormskirk, Prescot, Waterloo-with-Seaforth, West Lancashire and Whiston.

An Executive Committee consisting of 14 members has been formed. The first annual conference was held on June 20th, 1934, at which papers were read, entitled "The ravages caused by Smoke" and "The responsibilities of employer, engineer and fireman in industrial smoke prevention."

The principal task which has been accomplished is the circulation of a questionnaire to each constituent authority designed to ascertain the extent of the smoke problem in each area and what steps, if any, had been taken to cope with it. When the replies were summarised it transpired that the area covered by the constituent Local Authorities has a population of about 1,700,000 persons. Within this area are 1,233 factory chimneys. The types of industry are very varied, the principal

being shipping, engineering, flour milling, tanneries and sugar refining. There are few industries engaged in process work needing a "reducing" or "smoky atmosphere" furnace with resultant heavy emission of smoke. It appeared that few manufacturers knew the calorific value of the fuel that they purchase or possess instruments which enable them to determine whether the fuel is consumed efficiently or not. The opinion was expressed that the majority of the smoke nuisances caused by industrial plant result from inefficient hand-firing, and it is obvious that this represents a considerable wastage of money. Only three of the Local Authorities in the area have adopted a byelaw under Section 2 of the Public Health (Smoke Abatement) Act, 1926, namely, Liverpool, Bootle and Litherland. Some of the others have local Acts administered by resolution of the respective Councils.

The following steps were taken as the result of the replies to the questionnaire, namely: (i) the constituent Local Authorities that had not already done so were asked to adopt a uniform bye-law under Section 2 of the Public Health (Smoke Abatement) Act; (2) the constituent Local Authorities were advised to apply to the Federation of British Industries, 21, Tothill Street, London, S.W.1, for instruction cards for efficient and smokeless working of factory furnaces; and (3) the constituent Local Authorities were asked to undertake propaganda to encourage the use of electricity and gas for domestic heating, or, if coal must be used, to encourage householders to mix it with an equal weight of coke or make use of smokeless fuels such as Semi-anthracite, Dryco, Coalite, etc., and to make known the sources from which these fuels could be obtained.

Atmospheric Pollution.

There are now in use in Liverpool four standard deposit gauges, one situated in Netherfield Road since 1921, another situated in the grounds of the Carnegie Welfare Centre, Mount Pleasant, since March, 1929, and two others situated on the roof of St. George's Hall and on the roof of the Aigburth Vale High School for Girls respectively, both coming into use at the beginning of 1934.

The Netherfield Road gauge indicates the conditions which apply to a thickly-populated area in which there are also works and factories;

the gauge at St. George's Hall is in a district in which there are many offices and hotels but not a very large population; the gauge at the Carnegie Centre is in a fairly thickly populated residential district with practically no works; while the gauge at Aigburth Vale is in a residential district with large open spaces.

The principal figures are:—

			Netherfield Road Gauge.	Carnegie Gauge.	St. George's Hall Gauge.	Aigburth Vale Gauge.
Undissolved matter	...	...	299·59	178·12	170·39	66·92
Dissolved matter	...	...	235·89	117·63	149·85	66·86
Total solids	...	...	535·48	295·75	320·24	133·78
Acidity as H_2SO_4	...	...	8·73	11·22	17·89	7·47
Chlorine as Cl.	...	...	37·02	30·23	43·99	21·32
Ammonia as NH_3	...	...	5·70	2·70	1·79	0·73
Sulphate as SO_3	...	...	65·40	25·36	32·71	12·97
Lime as CaO	...	...	23·48	16·50	20·54	12·30
Rainfall in inches	...	...	29·41	28·90	24·13	29·20

The outstanding feature in the returns is that the rainwater collected in all the gauges was acid during every month, and the total acidity, calculated as sulphuric acid, was greater in the rainwater collected in the Netherfield Road and Carnegie gauges than it was in 1933.

Details of the analyses month by month at the four stations are given in the following tables:—

Atmospheric Pollution, 1934.

(332, Netherfield Road)

RESULTS OF ANALYSES BY THE CITY ANALYST (CALCULATED IN TONS PER SQUARE MILE).

	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	October.	Nov.	Dec.	Totals for 12 months.
Sum Total Solids	43·07	26·21	46·87	55·85	56·10	50·82	26·19	56·00	40·88	56·02	36·49	40·98	535·48
UNDISSOLVED MATTER—													
Tarry Matter and Bitumen	0·74	0·36	0·84	0·49	0·45	0·30	0·29	0·45	0·44	0·83	0·38	0·57	6·14
Other Organic Matter	6·12	3·92	6·86	9·23	9·03	7·72	4·22	7·91	6·40	9·18	5·18	6·25	82·02
Mineral Matter	12·32	8·57	14·54	29·32	25·35	26·38	12·75	25·02	16·37	15·49	12·42	12·90	211·43
Total Undissolved Matter ...	19·18	12·85	22·24	39·04	34·83	34·40	17·26	33·38	23·21	25·50	17·98	19·72	299·59
DISSOLVED MATTER—													
Organic Matter by Ignition	12·54	6·81	12·95	7·40	8·62	7·33	4·56	11·30	8·85	13·39	8·03	10·07	111·85
Mineral Matter	11·35	6·55	11·68	9·41	12·65	9·09	4·37	11·32	8·82	17·13	10·48	11·19	124·04
Total Dissolved Matter	23·89	13·36	24·63	16·81	21·27	16·42	8·93	22·62	17·67	30·52	18·51	21·26	235·89
Acidity as H ₂ SO ₄	1·35	0·20	0·85	0·10	0·14	0·08	0·03	0·28	0·51	1·91	1·43	1·85	8·73
Chlorine as Cl	4·18	1·61	3·67	2·47	2·88	2·37	1·57	3·54	2·55	7·06	2·32	2·80	37·02
Ammonia as NH ₃	0·51	0·18	0·58	0·50	0·36	0·36	0·30	0·61	0·54	1·02	0·31	0·43	5·70
Sulphate as SO ₃	6·09	3·47	6·15	4·85	6·73	4·72	2·37	5·99	4·36	8·42	5·92	6·33	65·40
Lime as CaO	1·35	0·99	1·50	2·22	2·17	2·27	1·06	2·82	1·71	2·98	2·17	2·24	23·48
RAINFALL { Millimetres ...	58·57	5·74	42·36	48·49	56·40	42·36	18·63	92·38	66·61	145·97	60·45	109·74	747·70
{ Inches	2·31	0·23	1·67	1·91	2·22	1·66	0·73	3·64	2·62	5·72	2·38	4·32	29·41
PH. Value	3·8	4·9	3·8	5·4	5·2	5·8	5·8	5·4	4·9	3·9	3·7	3·7	—

Atmospheric Pollution, 1934, (Carnegie Infant Welfare Centre, Cambridge Street)

RESULTS OF ANALYSES BY THE CITY ANALYST (CALCULATED IN TONS PER SQUARE MILE).

	January	Feb.	March	April	May	June	July	August	Sept.	October	Nov.	Dec.	Total for 12 months
Sum Total Solids.....	29.99	15.10	25.24	26.16	23.97	22.75	35.24	33.02	15.22	31.87	10.99	26.20	295.75
UNDISSOLVED MATTER—													
Tarry Matter and Bitumen	0.41	0.20	0.59	0.38	0.31	0.23	0.26	0.38	0.23	0.35	0.15	0.31	3.80
Other Organic Matter	5.68	2.17	4.94	5.25	5.30	5.48	8.21	8.34	3.54	6.25	1.58	4.30	61.04
Mineral Matter	9.92	5.58	10.76	9.49	8.54	10.20	19.71	9.77	6.53	8.52	3.27	10.94	113.28
Total Undissolved Matter	16.01	7.95	16.29	15.12	14.15	15.91	28.18	18.49	10.35	15.12	5.00	15.55	178.12
DISSOLVED MATTER—													
Organic Matter by Ignition.....	6.15	3.32	4.48	5.79	4.36	3.42	3.64	8.49	1.71	7.62	2.50	5.92	57.40
Mineral Matter	7.83	3.83	4.47	5.25	5.46	3.42	3.42	6.04	3.16	9.13	3.49	4.73	60.23
Total Dissolved Matter	13.98	7.15	8.95	11.04	9.82	6.84	7.06	14.53	4.87	16.75	5.99	10.65	117.63
Acidity as H ₂ SO ₄	1.38	0.33	0.77	0.87	1.12	0.31	0.01	0.89	0.56	1.96	1.28	1.74	11.22
Chlorine as Cl.	3.47	1.61	2.35	2.09	2.42	1.38	1.32	3.32	1.45	6.48	1.51	2.83	30.23
Ammonia as NH ₃	0.28	0.10	0.31	0.23	0.03	0.03	0.43	0.23	0.10	0.56	0.10	0.30	2.70
Sulphate as SO ₃	2.73	1.50	1.58	2.63	2.30	1.48	2.06	2.88	1.17	3.11	1.68	2.24	25.36
Lime as CaO	1.25	1.15	1.33	1.58	1.38	1.38	1.35	1.81	0.99	1.91	0.89	1.48	16.50
RAINFALL { Millimetres	54.78	6.45	39.96	51.56	53.49	33.51	4.77	118.59	56.07	149.52	48.98	116.01	733.69
{ Inches	2.16	0.25	1.57	2.03	2.11	1.32	0.19	4.67	2.21	5.89	1.93	4.57	28.90
P.H. Value	3.9	3.9	3.9	4.5	3.7	5.1	5.8	4.9	4.6	3.9	3.7	4.7	—

Atmospheric Pollution, 1934.

(St. George's Hall)

RESULTS OF ANALYSES BY THE CITY ANALYST (CALCULATED IN TONS PER SQUARE MILE).

	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	October.	Nov.	Dec.	Total for 12 months.
Sum Total Solids	36.69	27.32	30.96	28.16	22.27	26.99	27.49	26.14	19.94	35.98	12.70	25.60	320.24
UNDISSOLVED MATTER—													
Tarry Matter and Bitumen	0.30	0.10	0.20	0.20	0.13	0.17	0.10	0.27	0.26	0.37	0.10	0.44	2.64
Other Organic Matter	5.69	4.14	4.25	4.04	2.70	4.38	3.88	4.88	3.54	5.36	1.78	4.54	49.18
Mineral Matter	12.74	10.11	11.45	11.59	7.31	12.94	13.00	8.36	7.58	8.96	4.15	10.38	118.57
Total Undissolved Matter	18.73	14.35	15.90	15.83	10.14	17.49	16.98	13.51	11.38	14.69	6.03	15.36	170.39
DISSOLVED MATTER—													
Organic Matter by Ignition	7.01	6.13	7.01	5.76	5.86	4.14	5.90	7.21	3.37	6.26	3.33	4.11	66.09
Mineral Matter	10.95	6.84	8.05	6.57	6.27	5.36	4.61	5.42	5.19	15.03	3.34	6.13	83.76
Total Dissolved Matter	17.96	12.97	15.06	12.33	12.13	9.50	10.51	12.63	8.56	21.29	6.67	10.24	149.85
Acidity as H ₂ SO ₄	2.53	0.74	1.92	1.11	1.35	0.44	0.03	1.48	0.84	3.07	1.48	2.90	17.89
Chlorine as Cl.	5.59	3.37	4.21	2.86	3.34	2.22	2.32	3.60	2.46	8.29	1.89	3.84	43.99
Ammonia as NH ₃	0.20	0.10	0.27	0.30	0.20	0.07	0.03	0.03	0.15	0.17	0.07	0.20	1.79
Sulphate as SO ₃	3.27	2.73	3.77	2.96	3.20	1.99	2.36	2.39	1.62	3.77	1.65	3.00	32.71
Lime as CaO	2.09	2.26	1.74	1.85	1.35	1.62	1.58	2.02	1.31	1.89	1.04	1.79	20.54
RAINFALL {	42.97	4.63	34.37	40.32	40.98	29.08	17.19	88.57	50.90	122.95	40.98	100.47	613.41
Millimetres.....													
Inches	1.69	0.18	1.35	1.58	1.61	1.14	0.68	3.49	2.00	4.84	1.61	3.96	24.13
PH. VALUE.....	3.2	3.7	3.3	3.7	3.7	4.5	4.7	3.8	3.9	3.7	3.6	3.5	

Atmospheric Pollution, 1934. (Aigburth Vale)

RESULTS OF ANALYSES BY THE CITY ANALYST, (CALCULATED IN TONS PER SQUARE MILE).													
	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	October.	Nov.	Dec.	Total for 12 months.
Sum Total Solids	12.53	7.31	11.59	9.91	9.57	11.39	10.17	17.52	10.24	15.76	7.58	10.21	133.78
UNDISSOLVED MATTER—													
Tarry Matter and Bitumen	0.17	0.07	0.20	0.07	0.07	0.17	0.14	0.20	0.24	0.17	0.07	0.20	1.77
Other Organic Matter	1.82	0.84	2.03	1.58	1.58	2.39	1.55	2.53	1.68	2.25	0.50	1.72	20.47
Mineral Matter	3.80	3.03	3.94	4.28	3.81	4.72	5.05	3.81	3.27	3.81	1.62	3.54	44.68
Total Undissolved Matter	5.79	3.94	6.17	5.93	5.46	7.28	6.74	6.54	5.19	6.23	2.19	5.46	66.92
DISSOLVED MATTER—													
Organic Matter by Ignition	3.00	1.68	2.49	1.99	2.56	1.65	1.92	6.10	3.17	4.07	2.16	2.36	33.15
Mineral Matter	3.74	1.69	2.93	1.99	1.55	2.46	1.51	4.88	1.88	5.46	3.23	2.39	33.71
Total Dissolved Matter	6.74	3.37	5.42	3.98	4.11	4.11	3.43	10.98	5.05	9.53	5.39	4.75	66.86
Acidity as H ₂ SO ₄	0.67	0.13	0.61	0.27	0.54	0.24	0.06	0.98	0.47	1.35	0.88	1.27	7.47
Chlorine as Cl.	1.75	0.91	1.68	1.25	1.62	1.04	1.95	2.12	1.28	4.58	1.35	1.79	21.32
Ammonia as NH ₃	0.10	0.03	0.07	0.13	0.03	0.01	0.03	0.07	0.03	0.10	0.03	0.10	0.73
Sulphate as SO ₃	1.21	0.71	0.91	0.94	0.84	0.91	0.71	1.68	0.98	1.75	0.91	1.42	12.97
Lime as CaO	1.01	0.67	0.84	0.88	0.88	0.91	0.88	1.82	0.94	1.35	0.94	1.18	12.30
RAINFALL {	48.91	6.61	40.98	48.91	50.24	40.32	21.15	119.64	62.13	133.52	52.88	116.34	741.63
Millimetres													
Inches	1.93	0.26	1.61	1.92	1.98	1.59	0.83	4.71	2.45	5.26	2.08	4.58	29.20
Ph. Value	4.1	4.4	3.8	4.9	4.3	5.1	5.3	4.9	4.8	4.0	3.8	4.7	

Cleansing and Scavenging.

The City Engineer has kindly supplied the following information, which indicates the operations carried out by the cleansing staff under his control.

The work of the department consists of cleansing and watering the 688 miles of streets within the city, together with their back passages, the periodical emptying of ashbins, street gullies, street and court bins and ashpits, and the disposal of the refuse collected therefrom, etc. During 1934, the quantity of domestic and trade refuse collected was 359,944 tons, and the quantity disposed of was 380,389 tons. The quantity dealt with per working day was 1,239 tons.

The whole of the 688 miles of streets with their passages, with the exception of a few on the outskirts of the city, are swept weekly, the principal streets, and streets in congested areas, receiving constant daily attention. In addition, certain streets and passages are washed by hose pipe, but during 1934 this work had to be considerably curtailed owing to water shortage on account of the abnormal drought.

Seven sweeping machines are employed regularly, five on night work (one of which collects as well as sweeps), covering approximately 100 brush miles of roadway nightly, and two on day work, brushing the roadway and picking up the sweepings in side streets.

On Sunday mornings a number of the principal streets and streets in congested areas are cleansed, and all street and court bins emptied.

During 1934, 35,893 tons of street sweepings were collected and disposed of as manure and top dressing.

Three mechanical gully emptiers are now in use, which perform the work in a very satisfactory and sanitary manner.

In connection with street watering, 1,086,000 gallons of water were distributed during the season. This work had to be curtailed owing to the drought, and the use of fresh water was not permitted. The quantity used was sea water, drawn from special hydrants in the streets.

351,576 square yards of carriageway were treated with dust-laying compositions, of which 49,799 square yards were in various parks.

The frequent flushing of trough water closets is a sanitary measure, this type of closet being provided principally in the more densely populated areas of the city. The number of trough water closets in existence on 31st December, 1934, was 481.

There are 31 underground urinals with 283 stalls and 129 overground urinals with 556 stalls in Liverpool, which are cleansed and disinfected at least once daily. During the summer season a large number of urinals and trough water closets are cleansed and disinfected twice daily. All private, domestic and office drains are flushed regularly by the City Engineer's staff.

An improved type of fixture ash-bin was first supplied to Liverpool premises in 1898, and at the end of 1934 the number of bins in use of this type was approximately 90,800, the number of ashpits being reduced from 65,000 to approximately 1,340. In addition, more than 104,000 loose bins have been supplied. In the year 1900 an improved sanitary ashbin was introduced for the use of courts, some of which have been removed owing to property being demolished. The number in use at the end of the year was 906, these are emptied daily. Ashbins and ashpits on domestic premises are emptied approximately once weekly. The bell-cart service provides for the daily removal of domestic refuse from shops, business premises, and dwelling-houses, where no provision can conveniently be made for the storage of this description of refuse. Horse middens are emptied weekly and more often if required.

ASHPITS.—To assist in the abolition of ashpits within the city, the Health Committee applied for and obtained special powers under the Liverpool Corporation Act, 1927, Section 157, which is as follows :—

“ Section 467 (Regulation Dustbins) of the Act of 1921 is hereby
 “ repealed and the Corporation may by notice in writing require
 “ the owner or occupier of any dwelling-house, warehouse or shop
 “ to provide and maintain in proper order and condition
 “ galvanised iron dust-bins in lieu of ash-pits or ash-tubs or other
 “ portable receptacles for refuse, and such bins shall be of such
 “ size and construction as may be approved by the Corporation,
 “ and any owner or occupier who fails within fourteen days after
 “ notice given to him to comply with the requirements of the Cor-

“poration shall for every such offence be subject to a penalty not exceeding five shillings. Provided that in any case where the Corporation under this Section require a galvanized iron dust-bin to be provided in lieu of any ash-pit or ash-tub or other portable receptacle for refuse in use on the 4th day of August, 1905, which at the time such requirement is made is of suitable size and construction and in good order and condition, the Corporation shall pay the cost of providing such galvanized iron dust-bin.”

Numerous applications have been received by owners who desire to take advantage of this section of the provisions. Up to 31st December, 1934, approximately 3,290 ashpits have been abolished under these powers.

All ashpit and ashbin refuse is emptied direct into the carts and motors, and all loaded carts and motors traversing the streets are covered.

The refuse collected is disposed of by burning at three destructors, by disposing at sea, by sale to farmers, and by controlled tipping for reclamation of land, operations being carried out in accordance with suggested regulations of the Minister of Health, to comply with which 68,382 tons of soil were used for covering the refuse disposed of at tips during the year.

During the year 80,348 tons were burned at the destructors, 68,271 tons of refuse and 9,634 tons of heavy covering material were deposited at sea by hopper barge, 10,847 tons were sold to farmers, etc., and 220,205 tons were otherwise disposed of at tips and for agricultural purposes, etc. In addition, approximately 16,300 tons of clinker residue from destructors were used almost entirely in the construction and maintenance of roads and tramways and in the manufacture of mortar and concrete slabs, etc.

FOOD INSPECTION

including the supervision of dairies, the cleanliness of milk and ice-cream, tuberculous milk, diseases of cattle, and adulteration of food and drugs.

INSPECTION OF FOOD.

The duties in connection with the supervision of food supplies imposed upon the officers of the Health Department by various Acts and Orders are carried out by a fully qualified staff of food inspectors. They entail the examination of the carcasses of animals slaughtered for food at the abattoir and private slaughter-houses; the inspection of meat, fish and fruit at the various wholesale and retail markets and cold stores; and the inspection of shops, factories, etc., where foodstuffs are sold, prepared or stored for human food. A number of inspections are also made of food purchased under contract by the Port Sanitary and Hospitals Committee and the Education Committee. In some instances goods supplied were found to be not according to contract and were returned to the contractor.

A numerical summary of the visits paid to premises by the food inspectors is given in Table I.

TABLE I.

VISITS PAID TO PREMISES BY THE FOOD INSPECTORS.

Slaughter houses.	Butchers' shops.	Fruit shops.	Fish & Fruit shops.	Food Hawkers' premises.	Jam factor-ies.	Pickle factor-ies.	Food factories	Knackers' yards.	Total visits paid.
707	21,414	28,345	26,585	1,624	33	87	863	24	79,682

Knackers' Yards.

A "knackers' yard" means a building or place used for the slaughter of horses, asses, mules and cattle, the flesh of which is not intended for use as human food. There are two such knackers' yards in Liverpool.

Private Slaughter-houses.

There are nine private slaughter-houses in the city at which, during 1934, 2,025 animals were slaughtered. All the carcasses are inspected before being taken from the premises. One of these slaughter-houses is used solely for the slaughter of horses for export abroad as human food.

The Public Slaughter-house or Abattoir.

Slaughtering may take place at the Abattoir at any time during the day or night. It is continuous during one night per week, and sometimes during two, and Sunday is a very busy day. The work of inspection of animals and meat, therefore, is almost continuous.

During the slaughter of calves a close watch is kept for evidence of tuberculosis, and several instances have occurred of marked infection in very young animals. Where the origin of the animal is known inquiries are made as to the source of the infection. It may have been from the milk which has been used as food or congenital infection from the mother. In the latter event the mother is slaughtered under the Tuberculosis Order of 1925.

The carcasses of 9,708 animals showed abnormal conditions, and a detailed examination was made in each case.

During the year 3,459 carcasses were rejected as being unfit for human food. Of these, 2,351 were destroyed at the Abattoir and 1,108 were destroyed at knackers' yards.

During 1934, 516,830 animals of different kinds were slaughtered in Liverpool for human food. An analysis of this figure is given in Table II.

TABLE II.

NUMBER OF ANIMALS SLAUGHTERED IN LIVERPOOL FOR HUMAN FOOD.

		Bulls	Bullocks	Cows	Heifers	Calves	Sheep and Lambs	Swine	Horses
Public Abattoir ...	...	1,754	25,192	11,857	3,833	25,838	398,591	47,740	—
Private Slaughter- houses ...	...	—	45	—	68	12	244	1,399	257
TOTALS ...	...	1,754	25,237	11,857	3,901	25,850	398,835	49,139	257

Many carcasses of home-killed animals are brought into Liverpool from other districts. A summary is given in Table III.

TABLE III.

CARCASSES OF ANIMALS (HOME-KILLED) BROUGHT INTO LIVERPOOL FROM OTHER DISTRICTS.

Brought into the—	Beef.	Veal.	Mutton.	Lamb.	Pork.
Meat Market	10,110	792	399	2,691	9,226
Factories, Shops, etc. ...	19	65	1,435	247	1,087
TOTALS	10,129	857	1,834	2,938	10,313

In addition to the above 3,978 boxes or packages of home-killed offal were dealt with in the meat market.

A large number of carcasses of imported meat, both frozen and chilled, pass through the meat market. The figures for 1934 are given in Table IV.

TABLE IV.

CARCASSES OF IMPORTED (FROZEN AND CHILLED) MEAT PASSING THROUGH THE MEAT MARKET.

Beef.	Veal.	Mutton.	Lamb.	Pork.
61,672	174	117,130	613,409	4,051

In addition to the above, 26,291 cuts of beef and 156,425 boxes and packages of imported meat and offal were dealt with in the meat market.

Diseased Conditions.

A description of the diseased conditions found during 1934 which led to the total or partial destruction of carcasses is given in Table V.

TABLE V.

DISEASES FOR WHICH CARCASSES WERE TOTALLY OR PARTIALLY DESTROYED
AS INDICATED IN THE TABLE.

Disease.	No.	Disease.	No.
Abscess (partial)	47	Joint Ill	19
Arthritis, Septic (total)	48	Nephritis	8
„ Simple (partial)	48	Pyæmia	8
Asphyxia	245	Peritonitis Septic	34
Decomposition (total)	32	Peritonitis (partial)	3
„ (partial)	248	Pneumonia	43
Distomatosis	336	Pleurisy	13
Dropsy	448	Pleurisy (partial)	2
Enteritis	306	Septicæmia	1
Immaturity	25	Septic Mastitis	14
Injury (total)	28	„ Metritis	6
„ (partial)	726	„ Pericarditis	5
Jaundice	39	Swine Fever	145
Johnes Disease	19	Swine Erysipelas	6
Melanosis	1	Tuberculosis (total)	507
Presternal Calcification (partial)	3	„ (partial)	474
Neoplasms, Malignant	6		

In addition to the number of carcasses totally destroyed because diseased conditions made them unfit for human food, a number of organs with localised disease were condemned. A summary is given in Table VI.

TABLE VI.

NUMBER OF ORGANS DESTROYED ON ACCOUNT OF DISEASE, EXCLUSIVE OF ORGANS
DESTROYED IN CARCASSES TOTALLY CONDEMNED.

Disease.	No.	Disease.	No.
HEADS AND TONGUES :—		SPLEENS :—	
Tuberculosis	4,128	Tuberculosis	1,444
Abscess	93	Decomposition	163
Actinomycosis	104		
Decomposition	312		
LUNGS :—		STOMACHS :	
Tuberculosis	5,268	Tuberculosis	1,398
Congestion	12,698	Abscess	30
Unclassified Cystic Conditions...	2,320	Decomposition	2
Abscess	213	Peritonitis	1
Pneumonia	297		
Decomposition	611	KIDNEYS :—	
Pleurisy	595	Tuberculosis	1,471
Melanosis	11	Decomposition	475
Emphysema	143	Cysts	185
Parasitic	200	Cirrhosis	192
		Nephritis	12
LIVERS :—			
Tuberculosis	3,960	UDDERS :—	
Distomatosis	16,545	Tuberculosis	56
Unclassified Cystic Conditions...	1,906	Mammitis	1,503
Decomposition	1,182	Abscess	132
Abscess	648	Decomposition	50
Cirrhosis	1,528	Actinomycosis	3
Cavernous Angioma	672		
Congestion	2,355		
Parasitic	715	INTESTINES :—	
HEARTS :—		Tuberculosis	4,363
Tuberculosis	3,076	Enteritis	10
Decomposition	24	Johnes Disease... ..	27
Pericarditis	34	Abscess	8
		Emphysema	2

Incidence of Tuberculosis in Bovine Animals.

During 1934, 42,749 bulls, bullocks, heifers and cows were killed. Of these, 4,429 (10·36 per cent.) were affected with tuberculosis and rejected accordingly.

An analysis of these rejections is given in Table VII.

TABLE VII.
ANALYSIS OF REJECTIONS ON ACCOUNT OF TUBERCULOSIS.

	Total number slaughtered.	Carcase and Organs completely rejected.		Carcase and Organs partially rejected.		Rejection of Organs only.		TOTALS.	
		Number.	Per cent. of animals killed.	Number.	Per cent. of animals killed.	Number.	Per cent. of animals killed.	Number.	Per cent. of animals killed.
BULLS	1,754	9	0·51	85	4·79	177	10·09	271	15·45
BULLOCKS	25,237	14	0·05	41	0·16	459	1·82	514	2·03
HEIFERS	3,901	19	0·49	20	0·51	91	2·33	130	3·33
COWS	11,857	357	3·01	328	2·77	2,829	23·85	3,514	29·63
TOTALS	42,749	399	0·93	474	1·11	3,556	8·32	4,429	10·36

It is interesting to record that 74 of the 1,754 bulls slaughtered were found to be affected with tuberculosis confined to the superficial inguinal glands.

When a bovine animal is infected with tuberculosis, the lungs and associated lymph glands are the organs most commonly diseased. This is shown in Table VIII, wherein is an analysis of the tuberculous organs found in bovine animals, expressed as a percentage of the total bovine animals infected.

TABLE VIII.
ANALYSIS OF TUBERCULOUS ORGANS IN BOVINE ANIMALS.

Organs infected with tuberculosis.	Number of organs.	Expressed as a percentage of total tuberculous bovine animals.
Lungs and associated lymph glands	3,614	82%
Liver	2,306	52%
Intestine	1,863	42%
Head and associated lymph glands	1,802	41%
Stomach	1,316	30%
Spleen	1,364	31%
Kidneys and genital organs	1,391	31%

(Table VIII does not include the diseased organs from 399 animals totally rejected.)

Cows with Tuberculous Disease of the Udder.

During the year 45 cows slaughtered in the ordinary course of trade were found to be suffering from tuberculous disease of the udder. This figure is 0.38 per cent. of the total cows killed.

Calves with Tuberculosis.

During the year, 25,850 calves were slaughtered. Sixteen carcasses were totally rejected on account of tuberculosis, and in 12 cases the carcasses were passed after rejection of infected organs.

Quantities of Food Materials Condemmed.

The quantities of food material condemned as being unfit for human food are given in Table IX,

TABLE IX.

FOOD MATERIALS CONDEMNED AS BEING UNFIT FOR HUMAN FOOD.

Beef, Veal, Mutton, Pork.	Offal.	Fish.		Crabs, Lobsters, Oysters, Crayfish, Shrimps, Prawns, Scallops, Cockles.	Mussels, and Winkles.	Poultry.		Game.	Rabbits and Hares.	Fruit.		Vegetables.	Nuts, Cokernuts, Almonds, etc.	Grains, Barley.	Canned Food- stuffs.
		Wet.	Dry.			Fowls, Ducks, Geese, Turkeys, etc.	Partridges, Grouse, etc.			Apples, Pears, Bananas Oranges, Lemons, etc.	Potatoes, Cabbages, Sprouts, Onions, Turnips, etc.				
Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Bags.	Head.	Head.	Head.	Head.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Tins.
457,574	859,337	200300	22488	4,325	27	3,324	246	5,415	321,905	310,843	17,600	224	530		

A few samples of food materials were submitted for bacteriological or chemical examination as follows :—

TABLE X.

SAMPLES OF FOOD MATERIALS SUBMITTED FOR BACTERIOLOGICAL OR CHEMICAL EXAMINATION.

Fresh Meats and Offals.	Canned Foodstuffs.	Shell-Fish.	Fresh Fish.	Sweets.	Miscellaneous.
18	10	19	8	2	13

Fruit, Vegetable and Fish Markets.

In Table XI are given the quantities of fish, rabbits, poultry and game which passed through the Wholesale Market during the year.

TABLE XI.

QUANTITIES OF FISH, RABBITS, POULTRY AND GAME WHICH PASSED THROUGH THE WHOLESALE MARKET.

FISH				Rabbits.	Poultry.	Game.
Wet Fish.	Dry Fish.	Shell-Fish.	Salmon.			
16,416 tons	3,196 tons	646 tons	108½ tons	11,082 packages	8,437 packages	173 packages

The figures in Table XI include only the quantities of these food materials dealt with by firms associated with markets controlled by the Markets Committee.

The wholesale depôt in Queen Square and the Wholesale Fruit Market are two of the principal distributing centres in the country for imported fruit. During the year, 122,544 tons of vegetables passed through the Vegetable Market.

Public Health (Meat) Regulations, 1924.

These Regulations are based on the recommendations of the Departmental Committee on Meat Inspection. They are designed to secure more adequate inspection of animals slaughtered in this country as

well as improvements in the handling, transport and distribution of meat.

The objectionable practice of exposing meat in open shop fronts has ceased. However, carcasses and meats brought to Liverpool for sale from other places by road or rail or steamer are sometimes insufficiently protected from contamination.

The use of a thin transparent wrapping or covering for foodstuffs exposed for sale in shop windows or on counters or in show-cases is becoming more frequent and is a great help in the protection of food from dust, flies and handling.

The Tuberculosis Order, 1925.

This Order aims at the destruction of cows suffering from tuberculosis in a form that is a source of danger to human beings and to other animals. During 1934, 50 cows were slaughtered under this Order ⁽¹⁾.

Merchandise Marks Act, 1926.

This Act requires an indication of origin to be given in the case of imported foodstuffs. From time to time an Order in Council names a food material which, on importation from abroad, must be labelled "Foreign" or "Empire," or must bear a description of the actual country of origin. The food materials so far named are honey and fresh apples; currants, sultanas and raisins; eggs in shell, both hen and duck, and dried eggs; oat products; raw tomatoes; frozen or chilled salmon or sea trout; butter, poultry; bacon and ham.

The marking of imported foodstuffs in this way enables the buying public to distinguish between home-produced food and that which has come from abroad.

Agricultural Produce (Grading and Marking) Acts, 1928 and 1931.

These Acts provide for the grading and marking of agricultural and fishery produce of England and Wales, so that the purchaser shall be in the position to know what is the standard of quality of the food that he is buying.

(1).—See page 258,

From time to time the Ministry of Agriculture and Fisheries make regulations prescribing "grade designations" for particular commodities and defining the quality indicated by these grade names. For example, the words "Select," "Prime" and "Good" have been chosen to describe three qualities of home-killed beef.

In order that the public may be able to recognise readily a graded food material, it is marked with a prescribed "grade designation mark," consisting of a silhouette map of England and Wales bearing a circular representation of the Union Jack in the centre, around which are the words "Produce of England and Wales." This design has come to be known as "The National Mark." Associated with the National Mark is the grade name descriptive of the quality of the article.

Buyers now realise that the National Mark is a reliable indication of quality, and it is essential that the high standard associated with this mark be maintained.

During 1934 it has not been necessary to prosecute for offences under these Acts.

Slaughter of Animals Act, 1933.

The Slaughter of Animals Act, 1933, came into force on January 1st, 1934. The principal provisions of this Act are two in number, firstly that all animals, except those which are named as exceptions, must be killed or stunned before slaughter by means of a mechanically-operated instrument, and secondly, that all slaughtermen shall be licensed for a period of not exceeding three years, each expiring licence being the subject of renewal on application.

Sheep are exempt from the provisions of this Act unless by resolution of the local authority they are included. The Health Committee decided in March, 1934, to postpone their inclusion for twelve months, the matter to be reconsidered at the end of that time.

During the year, 578 applications for licences as slaughtermen were received, and 555 licences were granted.

THE SUPERVISION OF DAIRIES, COWSHEDS AND MILKSHOPS.

Under the Milk and Dairies Order, 1926, dairies and dairymen must be registered. The expression "dairy" includes any farm, cowshed, milk-store from which milk is supplied on, or for, sale; and the expression "dairyman" includes any occupier of a dairy, any cow-keeper, or any purveyor of milk.

TABLE XII.

Registration of Dairies.

(Milk and Dairies Order, 1926.)

Number of registered dairies at the end of 1933.	New applications for registration.	Registration refused.	Dairies removed from the register.	Number of registered dairies at the end of 1934.
815	28	3	39	801

During the year, 68 dairies were transferred from one owner to another. These opportunities were taken to effect improvements both in structure and apparatus.

The numbers of registered dairies during the five years 1930-1934 were : 785, 791, 818, 815 and 801 respectively.

Inspection of Dairies.

During the year, 7,763 visits of inspection were paid to dairies. In 40 instances infringements of the Milk and Dairies Order, 1926, were found. It was necessary to take legal proceedings in one case only. In every other case the notice of requirements was complied with at once.

The corresponding visits for 1933 were 7,600.

Registration of Dairymen.

The number of registered dairymen is described in Table XIII.

TABLE XIII.

REGISTERED DAIRYMEN.

Number of registered dairymen on Jan. 1st, 1934.	Applications for registration.	Applications refused.	Ceased to be dairymen.	Remaining on the register, Dec. 31st, 1934.
943	129	12	154	906

Of the 906 dairymen on the register at the end of the year, 105 were milk-hawkers who, having no premises of their own, are registered at the dairy from which they obtain their supplies and where they store their utensils.

Conveyance and Distribution of Milk Churns.

Observations were made at railway stations to ensure that Sections 28 and 29 of the Milk and Dairies Order, 1926, relating to the marking, construction and cleanliness of milk churns, were complied with. During the year 11 notices were sent to farmers outside the city drawing their attention to defects in milk churns. In every case the defects were remedied.

The Licensing of Places for Keeping Cattle.

(Liverpool Corporation Act, 1921.)

Under Sections 475 to 483 of the Liverpool Corporation Act, 1921, every person who keeps cattle shall be required to hold a license from the Corporation both in respect of himself and also in respect of the premises. On the licence shall be stated the number and description of the animals. The expression "cattle" includes bulls, cows, heifers, oxen, calves, rams, sheep, wethers, ewes, lambs, swine and goats and all other ruminating animals. The Corporation is required to keep a register of the licences granted, in which are entered particulars of the premises and the cattle.

In Table XIV is a summary of the register of licences in respect of milch cows.

TABLE XIV.

REGISTRATION OF PREMISES ON WHICH MILCH COWS ARE KEPT.

	End of 1933.	End of 1934.
Number of licensed cowsheds... ..	272	254
Number of cows specified on the licences	5,036	4,790
Approximate average number of cows kept ...	3,500	3,440

During the year an application made for the re-issue of a licence to keep 14 cows was refused on site and structural grounds. Twelve licences were transferred from one person to another. Applications from 3 licensees to keep additional stock, amounting in all to 25 cows, were granted. There were no applications for licences for new cowsheds.

A comparison of the numbers of licensed cowsheds during the years 1930-1934, together with the numbers of cows to which the licences referred, is given in Table XV.

TABLE XV.

A COMPARISON OF THE NUMBERS OF COWSHEDS AND COWS LICENSED DURING THE YEARS 1930-1934.

Year.	Number of licensed cowsheds.	Number of cows approved.
1930	281	4,931
1931	276	4,878
1932	275	5,134
1933	272	5,036
1934	254	4,790

During the year, 2,088 visits of inspection were paid to cowsheds. Thirty-three of the cowsheds visited were the subject of notices drawing the attention of the occupiers to contraventions of the Liverpool Corporation Act, 1921. All the notices were complied with, and no

prosecutions were necessary nor was any license forfeited because premises were not properly kept.

A summary of the register of licences in respect of the keeping of pigs and cattle other than milch cows is given on page 188.

The Daily Supply of Milk to Liverpool.

The quantity of milk consumed in Liverpool daily is as follows :—

TABLE XVI.

DAILY CONSUMPTION OF MILK DURING 1934.

Kind of Milk.										Quantity in Gallons.
Certified	...	...	...	...	...	...	...	...	...	70
Grade A (Tuberculin-tested)				...	...	...	...	...	...	1,030
Grade A	...	...	...	...	...	...	...	...	...	945
Raw ungraded		...	...	...	...	...	...	...	...	20,776
Pasteurised under licence	...	...	...	...	...	...	...	...	...	10,180
Heat-treated to pasteurisation standard	...				...	...	...	...	...	1,795
Other forms of heat-treatment, exclusive of sterilisation								...	...	3,309
Sterilized	...	...	...	...	...	...	...	...	...	6,331
Gallons										44,436

The relative quantities of milk produced within the city or brought into the city by rail or by road are as follows :—

TABLE XVII.

DAILY SOURCE OF MILK DURING 1934.

Produced from cows kept within the City.	Brought into the City by road.	Brought into the City by rail.
10,320 gallons	29,116 gallons	5,000 gallons

Total, 44,500 gallons approximately.

The growth of road transport during recent years has led to increased difficulties in sampling.

Graded Milk.

The daily quantity of graded milk consumed is given in Table XVI above. The number of producers and dealers in Liverpool who are licensed in accordance with the Milk (Special Designations) Order, 1923, either by the Ministry of Health or by the Local Authority, to produce or sell a graded milk, are given in Table XVIII.

TABLE XVIII.

PRODUCERS AND VENDORS OF GRADED MILK IN LIVERPOOL.

Nature of licence or licences.	Certified Milk.	Grade A (TT) Milk.	Grade A Milk.	Pasteurised Milk.
Producer only 	0	1	1	0
Producer and retail vendor ...	1	1	21	2
Retail vendor only 	16	14	30	0

During the year the following changes in licence holders took place, namely, 4 new licences were issued to producer-retailers of Grade "A" milk, and 2 vendors' licences were surrendered.

The Provision of Milk for School Children.

The Milk Marketing Board's scheme has enabled children in school to obtain milk at $\frac{1}{2}$ d. for one-third of a pint since October 1st, 1934. Prior to that date the price to school children was 1d. for one-third of a pint.

The Liverpool Education Committee decided to allow pasteurised milk only to be supplied to schools, but in order to give Liverpool cow-keepers an opportunity of making arrangements for pasteurisation, no action was taken to interfere with the supply of unpasteurised milk until January 1st, 1935.

There are a number of firms in Liverpool possessing plant suitable for producing milk treated by heat to the pasteurisation standard, by which is meant milk that has been retained at a temperature of not

less than 145° and not more than 150° Fahrenheit for at least half an hour, and has been cooled immediately to a temperature of not more than 55° Fahrenheit. A comprehensive survey revealed that in addition to two firms which already held licences for producing and selling pasteurised milk, there were six others able at once to supply milk treated to the pasteurisation standard, seven willing and able to adapt or obtain plant suitable for the purpose, and two firms proposing to obtain heat-treated milk in bulk from an approved source and bottle it themselves. At the present time (April, 1935) eighteen firms have been approved as sources of milk for Liverpool school children.

The following table gives the number of bottles of milk, each containing a third of a pint, supplied to school children daily in March, 1934, before the inception of the Milk Marketing Board's Scheme; in November, 1934; and in February, 1935.

TABLE XIX.

BOTTLES OF MILK SUPPLIED TO SCHOOL CHILDREN DAILY.

March, 1934.		November, 1934.		February, 1935.	
Heat-treated Milk.	Raw Milk.	Heat-treated Milk.	Raw Milk.	Heat-treated Milk (pasteurised).	Raw Milk.
9,216	4,735	54,756	18,627	72,293	Nil.
Total 13,951		Total, 73,382		Total, 72,293	

The Supervision of Milk supplied to School Children.

The sources of milk supplied to school children are supervised by (1) regular inspection of pasteurising plant and methods, and (2) frequent examination of milk samples.

INSPECTION OF PLANT.

The eighteen firms supplying milk have been visited regularly by a medical officer of the Health Department. His enquiries have related to (1) the character of the source of the raw milk to be treated; (2) the

cleansing and sterilisation of the apparatus after each day's work; (3) the methods of temperature control and the regulation of the holding time; (4) the possibility of a portion of the milk lying outside the holding zone during heat treatment; (5) the possibility of forward leakage in the plant; (6) the cooling and bottling arrangements; and (7) the efficiency of the bottle cleansing and sterilisation equipment.

It is noteworthy that there has been a marked improvement in the efficiency of pasteurisation as the result of this inspection. At the outset, two firms possessed laboratories which enabled them to control the milk bacteriologically both before and after treatment. Recently two other firms have taken similar steps, in one case by the appointment of a bacteriologist and a chemist, and in the other case by the appointment of a joint bacteriologist and chemist. In addition, one firm has installed modern plant and another has completed plans to do so. Experience has shown that modern equipment is useless without an efficient staff and that laboratory control is essential in the maintenance of high quality.

SAMPLING.

It was decided at the outset to sample milk supplied to school children as frequently as possible, in order to determine the presence or absence of tubercle bacilli, as well as the total bacterial count and the presence or absence of coliform organisms in 1 cubic centimetre and $\frac{1}{10}$ cubic centimetre. In addition, a chemical analysis is performed to determine the proportion of fat and other solids. Recently a "life" test has been added to the list, specimens of milk being kept at 20° centigrade for 24 hours and 48 hours to ascertain the presence or absence of clotting.

It has been found practicable to take samples from each firm supplying schools once every three weeks. The samples are taken off the bottling machines and packed in ice at once pending examination. At the time of writing (April, 1935), 104 reports have been received on the result of guinea-pig inoculations for tuberculosis, all of which have been negative. Experience has shown that there is no insuperable difficulty in keeping the total bacterial count to a figure below 10,000 bacteria per cubic centimetre and in producing a milk free from coliform organisms in 1 cubic centimetre.

In order to reach this standard of cleanliness, however, the raw milk must be of a high standard initially. The pasteurisation of a dirty milk does not result in a low bacterial count. It is the realisation of this fact that is resulting in a demand by pasteurising firms for a higher standard of raw milk production on the part of farmers, greatly to the benefit of consumers.

The results of chemical analyses have been very satisfactory. Few specimens have shown less than 3·5 per cent. of fat, and one-third of the samples have contained 3·9 per cent. of fat or more.

THE CLEANLINESS OF MILK.

The bacterial content of milk is a measure of the cleanliness of production, handling and storage. During 1934, 152 samples of graded milk and 448 samples of ungraded milk produced in Liverpool were submitted to the City Bacteriologist for bacterial counts. The results are given in Tables XX, XXI and XXII, below.

TABLE XX.

BACTERIAL COUNTS IN SAMPLES OF CERTIFIED MILK.

Supplied by	No. of samples	Where taken	NUMBER OF BACTERIA PER C.C.		PRESENCE OR ABSENCE OF COLIFORM BACILLI		
			Under 30,000	Over 30,000	Absent in 1 c.c.	Present in 1 c.c.	Present in $\frac{1}{10}$ c.c.
A	12	Wholesale Milk Depot...	12	0	11	0	1
B	8	Milkshop in City... ..	8	0	6	0	2
C	4	Milkshop in City... ..	2	2	3	0	1
D	1	Milkshop in City... ..	1	0	1	0	0
Totals ...	25		23	2	21	0	4

The bacterial standard for certified milk laid down in the Milk (Special Designations) Order, 1923, is that the bacteria per c.c. shall not exceed 30,000, and that coliform bacilli must be absent in $\frac{1}{10}$ c.c. It will be observed that 23 samples out of 25 complied with the bacterial

standard in respect of total count, but that 4 samples showed an excessive number of coliform bacilli, indicative of manurial contamination.

Of the 23 samples with less than 30,000 organisms per c.c., 20 yielded a count of less than 5,000 organisms per c.c.

TABLE XXI.

BACTERIAL COUNTS IN SAMPLES OF GRADE "A" (TUBERCULIN TESTED) MILK.

Number of samples.	Where taken	No. OF BACTERIA PER C.C.		PRESENCE OR ABSENCE OF COLIFORM BACILLI.			
		Under 200,000	Over 200,000	Absent in 1 c.c.	Present in 1 c.c.	Present in $\frac{1}{10}$ c.c.	Present in $\frac{1}{100}$ c.c.
23	Hospitals and Institutions	19	4	11	2	4	6
16	Infant Welfare Centres ...	15	1	9	1	4	2
11	do.	11	0	8	1	2	0
12	do.	12	0	9	2	0	1
12	Hospitals and Institutions	12	0	9	1	0	2
14	do.	14	0	7	4	2	1
13	do.	13	0	11	2	0	0
3	do.	3	0	1	2	0	0
12	Wholesale Milk Depot ...	11	1	3	5	1	3
11	Farm in City ...	11	0	10	0	1	0
127		121	6	78	20	14	15

The bacterial standard of Grade "A" (Tuberculin Tested) milk laid down in the Milk (Special Designations) Order, 1923, is that the bacteria per c.c. shall not exceed 200,000, and that coliform bacilli must be absent in $\frac{1}{100}$ c.c. It will be observed that 121 samples out of the 127 complied with the bacterial standard in respect of the total count, but that 15 samples showed an excessive number of coliform bacilli, indicative of manurial contamination.

Of the 121 samples with less than 200,000 organisms per c.c., 106 yielded a count of less than 30,000 organisms per c.c., which is the bacterial standard for Certified Milk, and of these 82 yielded a count of less than 10,000 organisms per c.c., a high standard of cleanliness.

TABLE XXII.

BACTERIAL COUNTS IN SAMPLES OF UNGRADED AND UNTREATED MILK
PRODUCED IN LIVERPOOL.

Month.	Number of samples	No. of bacteria per c.c.			Presence or absence of coliform bacilli.				
		Under 30,000	30,000 to 200,000	200,000 and over	Absent in 1 c.c.	Present in			
						1 c.c.	$\frac{1}{10}$ c.c.	$\frac{1}{100}$ c.c.	$\frac{1}{1000}$ c.c.
January ...	28	17	7	4	8	10	4	3	3
February...	25	16	8	1	7	8	5	3	2
March ...	58	32	21	5	23	8	9	10	8
April ...	36	23	12	1	16	5	9	4	2
May ...	44	26	13	5	12	5	10	12	5
June ...	46	20	16	10	6	12	10	10	8
July ...	18	6	6	6	3	2	3	4	6
August ...	28	7	12	9	1	5	4	8	10
September	49	19	17	13	6	11	4	11	17
October ...	42	15	21	6	4	12	11	7	8
November	41	26	12	3	6	13	10	9	3
December	33	10	11	12	0	2	10	10	11
TOTAL...	448	217	156	75	92	93	89	91	83
Percentage of total samples	—	48·5	34·8	16·7	20·5	20·8	19·9	20·3	18·5

The samples of ungraded and untreated milk tabulated in Table XXII were taken from milk produced in Liverpool by 205 cowkeepers. The milk is from cows milked at 6 a.m., and may have been kept on

the counter of the milkshop for several hours before the sample is taken. During this time the milk measure may have been dipped into the milk a number of times as sales have taken place. In these circumstances the results described in Table XXII create a very favourable impression as to the cleanliness of the milk produced within the city. It will be observed that of the total of 448 samples, 217 contained under 30,000 bacteria per c.c., the recognised bacterial standard for Certified Milk, and that 373 contained less than 200,000 bacteria per c.c., the standard for Grade "A" (Tuberculin Tested) Milk. Furthermore, 92 showed the absence of coliform bacilli in 1 c.c., and a further 93 exhibited this organism only in so large a quantity of milk as 1 c.c., indicating remarkable freedom from manurial contamination. A very great improvement has been effected in clean milk production in Liverpool.

Ice Cream.

During the year, 6,440 visits of inspection were paid to the premises of 2,012 makers of ice-cream.

In April, 1933, a memorandum on sanitary and other requirements was issued to all makers and vendors of ice-cream. This memorandum is published in full in the Report for 1932.

During the year 74 samples of ice-cream were submitted to the City Bacteriologist for bacteriological examination. The results are given in Table XXIII. It is noteworthy that in many cases the bacterial counts were very high.

TABLE XXIII.
BACTERIAL COUNTS IN ICE CREAM.

1934 Month	NUMBER OF BACTERIA PER C.C.					Presence of bacillus welchii.	Absent in 1 c.c.	COLIFORM BACILLI							
	Over 10,000,000	Between 1,000,000 and 10,000,000	Between 100,000 and 1,000,000	Between 10,000 and 100,000	Under 10,000			PRESENT IN							
								1 c.c.	$\frac{1}{10}$ c.c.	$\frac{1}{100}$ c.c.	$\frac{1}{1000}$ c.c.	$\frac{1}{10000}$ c.c.	$\frac{1}{100000}$ c.c.		
March ...	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—
May ...	—	1	1	4	—	1	5	—	1	—	—	—	—	—	—
June ...	—	—	8	10	6	6	9	5	4	2	3	—	—	1	1
July ...	—	2	8	4	3	2	4	3	2	1	3	1	—	3	3
August ...	1	2	1	2	—	1	—	—	2	2	1	—	—	1	1
Sept. ...	1	2	8	2	3	5	1	1	3	2	2	2	—	5	5
October ...	—	—	1	2	1	1	—	1	—	1	1	—	—	1	1
				94	14	16	20	10	11	9	10	3		11	11

TUBERCULOUS MILK.

The following propositions on the subject of bovine tuberculosis are well-authenticated and deserve to be widely known :—

(1) Raw milk, as at present distributed for human consumption, shows on an average the presence of living tubercle bacilli in some 6 to 7 per cent. of the specimens examined;

(2) About 2,000 children die annually from tuberculous infection of bovine origin, while many others suffer disabling and deforming illnesses;

(3) These disasters are due mainly, if not entirely, to the infection of the children through the milk supply;

(4) Pasteurisation properly performed, or failing this, the boiling of the milk, reduces the risk of tuberculosis and other milk-borne infections to the vanishing point.

It is evident, therefore, that the examination of milk for the presence of tubercle bacilli is a very important part of the work of a Health Department.

The Examination for Tuberculosis of Milk produced within the City.

During the year, 546 samples of milk produced within the city were submitted for bacteriological examination for tubercle bacilli with the following results :—

TABLE XXIV.

THE EXAMINATION FOR TUBERCULOSIS OF MILK PRODUCED WITHIN THE CITY.

Kind of Milk.	Number of samples.	Tubercle bacilli present.	Percentage tuberculous.
Graded Milk	42	1	2.4
Ungraded raw Milk ...	504	21	4.2

The percentage of samples of raw milk which proved to be tuberculous, namely, 4.2 per cent., compares favourably with the accepted figure for

the country as a whole, namely, 6 to 7 per cent., and is considerably less than the percentage of tuberculous samples of milk produced in areas outside the city, namely, 6·1 per cent. (see below). The corresponding figure for last year was 5·1 per cent.

The Examination for Tuberculosis of Milk produced in Areas outside the City.

During the year, 821 samples of milk produced in areas outside the city were submitted for bacteriological examination for tubercle bacilli with the following results :—

TABLE XXV.

THE EXAMINATION FOR TUBERCULOSIS OF MILK PRODUCED IN AREAS OUTSIDE THE CITY.

Kind of Milk.	Number of samples	Tubercle bacilli present.	Percentage tuberculous.
Graded milk	177	1	—
Heat-treated milk ...	137	0	—
Ungraded raw milk ...	507	31	6·1

The percentage of samples of raw milk on sale to the public which proved to be tuberculous, namely, 6·1 per cent., is about the average for the country as a whole and is considerably higher than the percentage for milk produced within the city, namely, 4·2 per cent. The corresponding figure for last year was also 6·1 per cent.

DISEASES OF CATTLE AND THE MILK SUPPLY.

The statistical information and observations in the paragraphs that follow have been kindly supplied by the Chief Veterinary Officer.

Anthrax and Foot-and-Mouth Disease.

No case of anthrax or foot-and-mouth disease has occurred within the City during 1934.

Tuberculosis occurring in Cows within the City.

There are in Liverpool approximately 3,440 cows in milk. Details of the veterinary examinations of these cows, together with similar figures for the previous five years, are given in Table XXVI.

TABLE XXVI.

THE VETERINARY EXAMINATION OF COWS IN LIVERPOOL COWSHEDS.

Year.	Visits to cases notified by owners.	Routine and other visits.	Total visits.	Samples of milk from suspected town cows examined microscopically.	Cows examined.	Cows with tuberculosis of the udder. or giving tuberculous milk.
1929	55	904	959	66	12,105	25
1930	34	879	913	123	11,463	20
1931	52	779	831	131	10,201	35
1932	83	484	567	134	7,636	27
1933	54	526	580	169	7,718	28
1934	55	405	460	143	6,419	32

Of the 32 cows with tuberculous disease of the udder or giving tuberculous milk nine were discovered during routine clinical examinations, 10 as the result of reports from owners and 13 were traced by reason of the tuberculous milk which they yielded.

The 6,419 veterinary examinations mentioned in Table XXVI represent approximately two examinations per cow per annum. It would be an additional safeguard against undiscovered tuberculosis if each cow were examined 4 times a year.

The number of routine Sanitary Inspectors' visits paid to cowsheds was 1,498, of which 25 were special visits to supervise the disinfection of premises from which diseased cattle had been removed.

Tuberculosis occurring in Cows outside the City.

Tuberculous milk coming into Liverpool from an outside area is reported to the Medical Officer of Health of the place of origin, whose

duty it is to arrange for a suitable investigation. It is the practice of the Chief Veterinary Officer to be present at the first examinations of the suspected herds. During 1934, 27 such visits of inspection were made.

During the year, tuberculous milk was sent into Liverpool from Cheshire, Denbighshire, Flintshire, Lancashire and Shropshire. In Table XXVII is given a description of the action taken as the result of the discovery of tuberculous milk coming from these areas. In those cases where no cow was detected with a tuberculous udder, the contamination had either ceased or the affected cow had been sold for slaughter. In all cases the infection was proved to have been eliminated.

TABLE XXVII.

TUBERCULOUS MILK SENT INTO LIVERPOOL.

County of origin.	Number of farms to which tuberculous milk was traced.	Number of cows examined and re-examined.	Number of cows destroyed with tuberculous disease of the udder.*	Instances in which no tuberculous udder was discovered.
Cheshire	12	613	7	6
Denbighshire	6	228	5	2
Flintshire ...	2	141	4	—
Lancashire ...	10	630	7	4
Shropshire ...	1	13	—	1
TOTALS ...	31 †	1,625	23	13

So far as is known, Cheshire is the only county among those mentioned in Table XXVII which possesses a whole-time veterinary staff whose duty it is to examine regularly milk-producing cattle. It is greatly to be hoped that the other county authorities will follow suit.

* In some cases more than one diseased animal was discovered on a farm.

† Actually 27 different farms were affected, but 4 of them were each involved on two occasions.

at an early date. At the present time the people of Liverpool are unduly exposed to the risk of infection with bovine tuberculosis from milk entering the city from outside.

The Milk Supply of Corporation Institutions.

The Port Sanitary and Hospitals Committee purchases approximately 878 gallons of Grade "A" (Tuberculin Tested) milk and 1,116 gallons of ordinary milk per day. The former is used for drinking and the latter for culinary purposes.

The Grade "A" (Tuberculin Tested) Milk supplied was negative for tuberculosis throughout the year.

The non-graded milk supply was found to be tuberculous on 13 occasions. Seven cows suffering from tuberculous disease of the udder were detected, and five cows with other forms of tuberculosis.

When the milk contracts are made, each firm tendering is required to submit the addresses of the farms from which it is intended to draw supplies. The twenty-five firms tendering during 1934 submitted a list of 65 farms situated in Lancashire, Cheshire, Denbighshire, Shropshire, and Montgomeryshire. Examinations were mainly confined to proposed fresh sources of supply, the majority of the premises submitted being already well known to the department. Thirteen premises and 630 cows were examined. Of the 65 farms concerned, 39 were satisfactory, 14 unsatisfactory and 12 were not inspected owing to distance and other factors.

The farms which supply successful contractors are visited about once a quarter. The 33 farms supplying milk were visited thus on 108 occasions, and 6,114 examinations of cows were carried out. In addition to these routine visits, 132 visits were paid to farms for the purpose of testing 772 animals with tuberculin.

The Tuberculosis Order of 1925.

Under the Tuberculosis Order of 1925 certain forms of bovine tuberculosis are notifiable by owners and by veterinary surgeons.

This Order aims at the destruction of cows suffering from tuberculosis in a form that is a source of danger to human beings and to other animals.

Owners are compensated for cattle which are slaughtered, the scale being three-quarters of the market value when the disease on *post-mortem* examination is found to be "not advanced," and one-quarter when the disease is "advanced," as defined in the Order.

The Ministry of Agriculture and Fisheries bears the cost of 75 per cent. of the compensation payments and the Local Authority pays the remainder. In most cases the payment by the Local Authority is counter-balanced by the amount received for salvage, so much so that, except in 1932, there has been a yearly credit balance to the city since the introduction of the Order.

In Table XXVIII are given the number of animals dealt with during 1933 and 1934 and the nature and degree of disease from which they suffered.

TABLE XXVIII.
SLAUGHTER OF CATTLE SUFFERING FROM TUBERCULOSIS.

Year.	Total number of animals examined.	Number slaughtered.	CLASSIFICATION OF THE DISEASE.				RESULT OF POST-MORTEM EXAMINATION.	
			Tuberculous disease of the udder.	Giving tuberculous milk.	Tuberculous emaciation.	Chronic cough and definite signs of tuberculosis.	Advanced disease.	Disease not advanced.
1933	1,037	53	26	2	5	20	44	9
1934	1,223	50	31	1	2	16	40	10

The total market value of the animals slaughtered was £451 10s. 0d.

The amount paid in compensation and recovered from the Ministry of Agriculture and Fisheries as well as from the sale of carcasses is given below:—

	£	s.	d.		£	s.	d.
Compensation refunded by the Ministry of Agriculture	145	6	3	Compensation paid to owners	193	15	0
Amount recovered by sale of carcasses	73	6	0	Credit balance	24	17	3
	£218	12	3		£218	12	3

THE ADULTERATION OF FOOD AND DRUGS.

The adulteration of food (including milk) and drugs is discovered by sampling followed by chemical analysis. The procedure adopted is that described in the Food and Drugs (Adulteration) Act, 1928. The addition of preservatives to food is now forbidden except in the case of foods mentioned and in respect of the preservatives specified in the Public Health (Preservatives, etc., in Food) Regulations.

During the year a total of 8,317 samples of food and drugs was purchased or taken and submitted for examination. Of these samples 5,219 were formal samples and 3,098 were informal samples.* The results are summarised in Table XXIX.

* An "informal" sample is one purchased without intimation to the vendor that it is to be analysed. Valuable information as to sources of fraud may sometimes be obtained in this way. Prosecution for adulteration cannot be undertaken, however, until a "formal" sample has been taken subsequently in accordance with the procedure described in The Food and Drugs (Adulteration) Act 1928.

INFORMAL SAMPLES.				FORMAL SAMPLES.						
Number of samples taken.	Number found genuine.	Number adulterated.		Nature of Sample.	Number of samples taken.	Number found genuine.	Number adulterated.		Number of vendors cautioned.	Informations laid.
		Seriously.	Slightly.				Seriously.	Slightly.		
—	—	—	—	Arrowroot...	17	17	—	—	—	—
8	8	—	—	Baking Powder ...	6	6	—	—	—	—
4	4	—	—	Barley ...	170	157	11	2	10	—
48	48	—	—	Beer and Stout ...	—	—	—	—	—	—
49	49	—	—	Bread ...	—	—	—	—	—	—
127	127	—	—	Butter ...	447	447	—	—	—	—
15	15	—	—	Cake Flour and Mixtures ...	—	—	—	—	—	—
15	15	—	—	Cheese and Wrapped Cheese ...	1	1	—	—	—	—
20	20	—	—	Cocoa and Mixtures ...	36	36	—	—	—	—
47	44	1	2	Condensed Milk ...	—	—	—	—	1	—
7	7	—	—	Coffee and Mixtures ...	78	78	—	—	—	—
56	56	—	—	Confectionery ...	8	8	—	—	—	—
10	10	—	—	Cake and Biscuits ...	—	—	—	—	—	—
42	41	—	1	Condiments and Spices ...	176	169	—	7	—	—
9	9	—	—	Corn Flour ...	11	11	—	—	—	—

SUMMARY OF SAMPLES, &c.—*continued.*

INFORMAL SAMPLES.				Nature of Sample.	FORMAL SAMPLES.				Informa- tions laid.	
Number of Samples taken.	Number found genuine.	Number adulterated.			Number of Samples taken.	Number found genuine.	Number adulterated.			Number of Vendors cautioned.
		Seriously.	Slightly.				Seriously.	Slightly.		
4	4	—	—	Cream of Tartar ...	11	11	—	—	—	
73	73	—	—	Cream and Tinned Cream	—	—	—	—	—	
30	30	—	—	Custard Powder ...	3	3	—	—	—	
13	13	—	—	Dripping and Compounds	8	8	—	—	—	
37	37	—	—	Dried Fruits ...	106	105	1	—	1	
116	114	2	—	Drugs ...	1	1	—	—	—	
13	13	—	—	Egg Substitute Powder ...	1	1	—	—	—	
15	15	—	—	Flour ...	71	70	—	1	—	
3	3	—	—	Ground Almonds	13	13	—	—	—	
8	8	—	—	Honey ...	—	—	—	—	—	
27	23	4	—	Ice Creams ...	1	1	—	—	4	
99	96	3	—	Jams, Jellies and Marmalade	10	9	1	—	—	
20	20	—	—	Lard ...	74	74	—	—	—	
24	24	—	—	Lemon Cheese and Curd	—	—	—	—	—	
96	96	—	—	Margarine ...	9	9	—	—	—	
					9050	9776	134	49	20	
									54	

INFORMAL SAMPLES.				FORMAL SAMPLES.					Informa- tions laid.
Number of Samples taken.	Number found genuine.	Number adulterated.		Number of Samples taken.	Number found genuine.	Number adulterated.		Number of Vendors cautioned.	
		Seriously.	Slightly.			Seriously.	Slightly.		
3	3	—	—	35	35	—	—	—	—
7	7	—	—	4	4	—	—	—	—
6	6	—	—	294	260	3	31	2	—
20	20	—	—	98	98	—	—	—	—
—	—	—	—	158	158	—	—	—	—
13	13	—	—	1	1	—	—	—	—
3	3	—	—	105	104	—	1	—	—
19	19	—	—	17	17	—	—	—	—
31	29	1	1	—	—	—	—	—	—
60	44	6	10	—	—	—	—	1	—
29	21	1	7	4	3	1	—	—	—
12	11	1	—	2	2	—	—	—	—
5	5	—	—	4	2	2	—	2	—
202	193	6	3	280	279	1	—	11	—
3098	2987	68	43	5219	4974	154	91	52	54

Milk was the food material which accounted for the greatest number of samples, namely, 4,612. All the milk samples were examined for added water, fat deficiency, added colouring matter and added preservative. The results of the legal proceedings taken are given in Table XXXI below. In no milk sample was any added preservative found.

In Table XXX is an analysis of where and when milk samples were taken, together with the number of subsequent prosecutions.

TABLE XXX.

MILK SAMPLES.

Where the samples were taken or purchased.	NUMBER OF SAMPLES TAKEN ON			
	Weekdays.	Subsequent Prosecutions.	Sundays.	Subsequent Prosecutions.
City Milkshops	1,743	37	311	12
Wholesale Milk Depots	768	5	—	—
Railway Stations	247	—	2	—
Hospitals and Public Assistance Institutions	1,178	—	—	—
Infant Welfare Centres and Day Nurseries	363	—	—	—

In the course of the collection of samples enumerated in Table XXIX, 4,082 visits were paid to shops, 162 visits to premises of wholesale dealers in margarine, and 1,844 visits to other places.

In Table XXXI is a summary of the prosecutions during 1934 for offences under the Food and Drugs (Adulteration) Act, 1928, together with the fines inflicted and the costs recovered.

TABLE XXXI.

OFFENCES UNDER THE FOOD AND DRUGS (ADULTERATION) ACT, 1928.

No. of informa- tions laid.	Nature of Sample.	Nature of Offence.	RESULT OF LEGAL PROCEEDINGS.				
			No. of convic- tions.	Withdrawn on payment of costs.	Withdrawn and dismissed without costs.	Fines.	Costs.
18	Milk	Adulterated with Water	15	—	3	£ s. d. 39 0 0	£ s. d. 16 11 6
24	"	Deprived of Milk Fat...	23	—	1	13 0 0	24 3 0
12	"	Coloured with Annatto	12	—	—	6 0 0	12 12 0
54			50	—	4	58 0 0	53 6 6

Fertilizers and Feeding Stuffs.

During 1934, 138 samples of fertilisers and feeding stuffs were submitted for analysis. It was not necessary to take legal proceedings.

Poisons and Pharmacy Act, 1908, Section 2.

Section 2 of this Act regulates the sale of certain poisonous substances, for example, sheep-dips and weed-killers, used for agricultural and horticultural purposes. Vendors of these materials must be licensed by the Local Authority.

During 1934 the number of licences issued was 22.

REPORT OF THE CITY BACTERIOLOGIST, 1934.

During the year 1934, 50,740 specimens were examined for the Public Health, Port Sanitary and Water Departments.

These specimens may be grouped as follows:—

1. Milk and other foodstuffs.
2. Water.
3. Rats, etc., for possible infection with the bacillus of plague.
4. Material from infectious diseases in man—diphtheria, vincent's angina, typhoid fever, tuberculosis, etc.
5. Venereal diseases.
6. Material from animals with suspected infection.
7. Other specimens.

The following samples have been examined:—

Milk and other Foodstuffs.

(I) Fresh milk—			
City Hospitals and other institutions	... ..	...	379
Maternity and Child Welfare institutions	... ..	...	39
Milk shops, railway stations, etc.	... ..	...	1,095
			—— 1,513
(II) Tinned milk	... ..	...	16
(III) Other foodstuffs, shell fish, tinned and potted meats, etc....	...	...	114
			—— 1,643
			=====

(1) FRESH MILK—*City Hospitals and other Institutions*—Of the 379 samples examined, 172 showed no evidence of *B. coli* in 1 c.c., and *B. tuberculosis* was found in 16 samples. A bacterial count was done on each sample.

Maternity and Child Welfare Institutions—Of the 39 samples examined, 25 showed no evidence of *B. coli* in 1 c.c., and *B. tuberculosis* was found in 1 sample. A bacterial count was done on each sample.

Milk Shops, Railway Stations, etc.—Of the 1,095 samples examined, 269 showed no evidence of *B. coli* in 1 c.c., and *B. tuberculosis* was found in 47 samples. A bacterial count was done on 676 samples.

Thus, in 1,513 samples of milk, 64 were found to be infected with *B. tuberculosis*. As many of the samples were in duplicate or triplicate, no conclusion can be drawn from these figures as to the frequency of the tubercle bacillus in the milk supply of the city.

(II) **TINNED MILK.**—Of the 16 samples of tinned milk and tinned cream examined, one was sterile and the remainder showed no organisms of the food-poisoning group.

(III) **OTHER FOODSTUFFS.**—There were 114 samples of other foodstuffs examined as follows:—

(a) Tinned and potted meats, etc. ...	...	...	...	...	1
(b) Shell-fish ...	...	...	...	...	18
(c) Ice-Cream ...	...	...	...	...	75
(d) Miscellaneous ...	...	...	...	...	20

None of these samples call for any special comment.

Water.

There were 638 samples of water examined, viz. :—

Daily samples ...	...	...	...	...	...	567
Monthly samples—						
Prescot: Vyrnwy...	...	...	...	...	...	13
Prescot: Rivington	...	...	...	...	...	9
George Holt Well...	...	...	...	...	...	13
John Holmes Well	...	...	...	...	...	12
Dudlow Lane ...	...	...	...	...	...	13
					—	60
Special samples ...	...	...	...	...	...	11
						<u>638</u>

The water throughout the year, whether from the wells or from Prescot, was, from a bacteriological standpoint, satisfactory.

Rats, etc.

During the year, 3,057 rats, etc., from warehouses, etc., within the city were examined, and no evidence of the presence of the bacillus of plague was found in any of them.

Material from Infectious Diseases in Man.

(a) Swabs from suspected cases of diphtheria :—

	Positive.	Doubtful.	Negative.	TOTAL.
City hospitals... ..	2,312	24	18,801	21,137
Maternity and Child Welfare institutions...	18	—	606	624
Private practitioners	525	7	3,738	4,270
	2,855	31	23,145	26,031

(b) Swabs from suspected cases of Vincent's angina :—

City hospitals... ..	3	—	14	17
Private practitioners	21	—		53
Maternity and Child Welfare institutions...	—	—	1	1
	24	—	47	71

(c) Agglutination tests of blood from suspected cases of typhoid fever, undulant fever, dysentery, and food-poisoning, etc. :—

	Positive.	Doubtful.	Negative.	TOTAL.
City hospitals... ..	38	—	58	96
Private practitioners	4	—	16	20
Maternity and Child Welfare institutions...	—	—	1	1
	42	—	75	117

Cultivations of blood from suspected cases of typhoid fever, undulant fever, dysentery and food-poisoning :—

City hospitals	—	—	3	3
-----------------------	---	---	---	---

(d) Urine and faeces, etc., from suspected cases of typhoid fever, undulant fever, dysentery and food-poisoning :—

City hospitals... ..	17	—	125	142
Private practitioners	1	—	27	28
	18	—	152	170

(e) Sputa, etc., from suspected cases of tuberculosis:—

	Positive.	Doubtful.	Negative.	TOTAL.
City hospitals... ..	51	—	154	205
Maternity and Child Welfare institutions...	1	—	6	7
Private practitioners	247	2	1,269	1,518
	299	2	1,429	1,730

(f) Anthrax Infection.

42 specimens of tissues, swabs, etc., were examined, chiefly for the city hospitals, and evidence of anthrax infection was found in 2 specimens.

(g) Vaccines.

Two vaccines were prepared from specimens sent from city hospitals.

(h) Miscellaneous.

294 specimens of tissues, secretions, fluids and other specimens were examined, chiefly for the city hospitals, and the Maternity and Child Welfare institutions.

One sample of disinfectant and 14 samples of water from the Baths and Wash-houses Department were examined, but none call for any special comment.

Venereal Diseases.

The following specimens have been examined from persons known or suspected to be suffering from venereal diseases:—

CLINICS.

	Positive.	Doubtful.	Negative.	TOTAL.
Blood, etc., for Wassermann reaction ...	463	123	2,627	3,213
Films for gonococci	14	23	219	256
Exudates for spirochaetes	1	—	3	4
Blood for gonorrhœa complements fixation tests	91	47	104	242
	569	193	2,953	3,715

HOSPITALS, PRIVATE PRACTITIONERS, ETC.

			Positive.	Doubtful.	Negative.	TOTAL.
Blood for Wassermann reaction...	...	1,269	247	6,837	8,353	
Films for gonococci ... ..	...	157	56	471	684
Exudates for spirochaetes ... ..	...	—	—	5	5
Tissues from still-born infants for spirochaetes ... ..	...	—	—	165	165
Blood for gonorrhœa complements fixation tests ... ..	...	5	4	12	21
Films for gonococci in ophthalmia neonatorum ... ..	...	4	3	29	36
		1,435	310	7,519	9,264	
GRAND TOTALS ... ..	...	2,004	503	10,472	12,979

As the majority of the Wassermann reactions were carried out on sera from patients suspected to be suffering from venereal disease, several specimens of blood may have been sent from one case at different times, and, therefore, no conclusion as to the incidence of positive and negative results can be drawn from these figures.

Material from Animals with Suspected Infection.

For tuberculosis—12 specimens of tissues, etc., were examined, 6 of which proved positive.

For anthrax bacilli—There were 59 samples of shaving brushes, etc., examined, and from 2 samples anthrax bacilli were obtained.

Port Sanitary Authority.

During the year 154 samples of treated and untreated wool, hair, etc., were examined for the Government Wool Disinfecting Station, and from 7 untreated samples anthrax bacilli were obtained.

RATS. There were 3,720 rats examined from ships, quays, etc., but no evidence of plague infection was found in any.

Two samples of ox tongue were examined, but they do not call for any special comment.

Summary of Examinations for 1934.

Description of Specimens	1934
Milk and other food-stuffs	1,643
Waters	638
Rats, etc.	6,777
Material from infectious diseases in man :—	
Swabs for diphtheria bacilli	26,031
Swabs for organisms of Vincent's angina	71
Blood for agglutination tests for typhoid fever, etc.	117
Blood for cultural examination for organisms of typhoid fever, etc.	3
Urine and faeces for organisms of typhoid fever, etc.	170
Sputa, etc., for B. tuberculosis	1,730
Tissues, etc., for anthrax bacilli	42
Vaccines	2
Miscellaneous	310
Specimens for evidence of venereal disease	12,979
Material from animals with suspected infection :—	
Tissues, etc., for evidence of tuberculosis	12
Hair, shaving brushes, etc., for anthrax bacilli	213
Other specimens... ..	2
TOTALS	50,740

HOUSING

HOUSING.

Removal of Insanitary Property.

The following summary gives the number of houses which have been dealt with from 1865 to 1934 inclusive :—

Date.	Powers.	Approximate Number of Houses dealt with.
1865 to 1904	The Liverpool Sanitary Amendment Act, 1864...	6,300
1905 to 1933	HOUSING ACTS.	
	(a) Unhealthy Areas (25)	3,798
1906	(b) As the result of a circular letter directing the owner's attention to the insanitary condition of the property	1,020
1906 to 1934	(c) Closing Orders	2,056
	(d) Demolition Orders	238
Nov., 1933, to Dec., 1934	(e) Compulsory Purchase Orders	1,592
	(f) Clearance Orders	1,055

The following is a summary of clearance areas officially represented by the Medical Officer of Health during the period November, 1933, to December, 1934 :—

Total number of clearance areas officially represented	...	106
Number of areas declared compulsory purchase orders	...	40
„ „ areas declared clearance areas	... ..	60
„ „ areas in respect of which the properties are owned by the Council	... ..	4
„ „ areas still in abeyance	... ..	2
„ „ dwellings included in these areas	... ..	2,757
„ „ other buildings	... ..	59
„ „ persons occupying the dwellings	... ..	13,043

COMPULSORY PURCHASE ORDERS.

Clearance Area.	Dwelling-houses.	Other Buildings.	Population.	Date of Confirming Order.
Bernard Street	34	1	161	29.9.34
Benledi Street No. 1	153	—	775	
Benledi Street No. 2	20	1	147	
Breckfield Place	23	1	107	
Burlington Street No. 1	5	—	30	
Burlington Street No. 2	2	—	11	
Burlington Street No. 3	19	1	167	
Corlett Street	118	2	550	
Crown Square	36	—	172	
Dickinsons Cottages	9	—	41	
Fox Street No. 1	21	1	109	
Fox Street No. 2	12	1	49	
Great Richmond Street	55	—	300	
Hill Street No. 1	7	—	43	29.9.34
Hill Street No. 2	64	3	350	29.9.34
Horatio and Lawrence Streets	66	3	325	22.10.34
Hurst Street No. 1	5	—	27	
Hurst Street No. 2	72	1	327	
Johnson Street	42	2	246	
Johns View	8	—	49	
Latimer Street	62	1	302	
Limekiln Lane	5	1	29	
Mason Street	46	2	233	
Metley Street	7	—	25	
Morris Street	73	—	305	
Olive Street	19	—	69	
Paddington	4	—	12	
Minshull Street	89	1	366	29.9.34
Mount Vernon Street No. 1	131	—	510	
Penrhyn Street	20	—	87	
Portland Street No. 1	96	8	571	
Portland Street No. 2	54	3	311	22.10.34
Quarry Street No. 1	32	1	159	
Quarry Street (part of) No. 2	12	—	68	21.12.34
Salisbury Street	9	—	30	
Stancliffe Street	33	—	159	
Upper Frederiek Street No. 1	28	—	140	
Upper Frederick Street No. 2	39	1	195	29.9.34
Upper Stanhope Street	57	—	297	
Vauxhall Road	5	—	18	
TOTALS	1,592	35	7,872	

CLEARANCE ORDERS.

Clearance Area.	Dwelling-houses.	Other Buildings.	Population.
Albion Terrace	18	—	81
Back Highgate Street	37	2	163
Back Sandstone Road	4	—	14
Bancroft Street	54	1	235
Beau Street	6	1	34
Bevington Hill	22	1	128
Browside	8	—	50
Burgess Street No. 1	4	2	22
Burgess Street No. 2	4	—	18
Clifford Street	4	—	18
Cazneau Street No. 1	8	—	54
Constance Street	4	—	20
Craven Street	18	1	91
East Prescott Road (Lord Nelson Cottages)	5	—	10
East Prescott Road No. 1	7	—	21
East Prescott Road No. 2	9	—	30
Etna Street	10	—	19
Everton Place	12	—	42
Falkland Street	4	—	16
Georges Terrace	12	—	55
Gildart Street	3	—	21
Gregson Street No. 1	155	1	632
Gregson Street No. 2	6	—	23
Hardwick Street	2	1	5
Highgate Street	59	2	235
Hodson Street No. 1	4	—	30
Hodson Street No. 2	3	—	14
Hop Street	31	—	125
Hygeia Street No. 1	2	—	10
Hygeia Street No. 2	49	—	223
Jasper Street No. 1	11	—	53
Jasper Street No. 2	5	—	29
Jasper Street No. 3	11	—	65
Jubilee Street	30	3	100
Juvenal Place	2	—	9
Lambert Street	9	—	27
Maddox Street	8	—	26
Mount Vernon Street No. 2	6	—	24
Mount Vernon View	53	—	257
Myers Street No. 1	12	—	47
Myers Street No. 2	40	4	187
Naylor Street	6	—	32
Oakes Street	12	—	57
Prospect Street	3	—	9
Pye Street	41	1	158
Quarry Street (part of) No. 2	27	—	131
Shepherd Street	3	—	11
Smithy Yard	5	—	19
The Barracks, West Derby	34	1	152
Thistle Terrace	23	—	143
Tichborne Terrace... ..	22	—	137
Village Street	16	—	44
Vine Street	2	—	15
Walnut Street	4	—	18
Waterloo Street	11	1	50
Weilington Street	40	—	197
Whitefield Terrace	32	—	131
Wilde Street No. 1	7	—	10
Wilde Street No. 2	2	—	15
Wilmott Street	14	—	61
TOTALS	1,055	22	4,653

AREAS IN RESPECT OF WHICH THE PROPERTIES ARE OWNED BY THE COUNCIL.

Clearance Area.	Dwelling-houses.	Other Buildings.	Population.
Ashton Place	2	—	7
Back Bittern Street	5	1	18
Cazneau Street No. 2	23	—	134
Kempston Street	3	—	15

AREAS STILL IN ABEYANCE.

Clearance Area.	Dwelling-houses.	Other Buildings.	Population.
Blucher Street	73	1	328
Sidney Place	4	—	16

Since operations were commenced under Section 19, Housing Act, 1930, the Medical Officer of Health has submitted 459 individual houses to the Housing Committee which, in his opinion, were unfit for human habitation, and the position in respect to these houses is as follows :—

	No. of Houses
Demolition Orders made	221
Undertaking given not to use for human habitation	61
Plans submitted in respect of re-construction ...	176
Number adjourned	1

Replacement of Insanitary Houses.

NEW FLATS IN TROWBRIDGE STREET.—The erection of tenement flats on the old abattoir site in Trowbridge Street is rapidly proceeding. Two blocks of 75 and 45 flats have been completed and occupied, and further blocks of 156 and 40 flats are well advanced. All these are designed to accommodate tenants displaced from the Gerard Street Clearance Areas.

NEW FLATS IN SOUTH HILL ROAD, DINGLE MOUNT, AND SPEKE ROAD, GARSTON.—The tenements in South Hill Road and Dingle Mount and 14 houses in Dingle Road are now occupied.

NEW FLATS IN ST. JAMES STREET.—A block of 54 tenement flats, for the accommodation of persons dispossessed from individual insanitary houses in the district, is practically completed. A second block will shortly be commenced.

Building operations now proceeding include the following Schemes of new Flats :—

CARYL STREET and GRAFTON STREET.—312 Flats, comprising 12 bed-living room, 38 one-bedroom, 112 two-bedroom, 116 three-bedroom, and 34 four-bedroom types.

MYRTLE STREET.—180 Flats, comprising 33 one-bedroom, 49 two-bedroom, and 98 three-bedroom types. The complete scheme comprises a total of 344 flats and 2 shops.

FONTENOY STREET.—63 Flats, comprising 6 one-bedroom, 27 two-bedroom, and 30 three-bedroom types.

HIGH STREET, WAVERTREE.—72 Flats, comprising 5 one-bedroom, 16 two-bedroom, and 51 three-bedroom types.

CHAUCER STREET.—35 Flats, comprising 10 one-bedroom, 10 two-bedroom, 10 three-bedroom, and 5 four-bedroom types.

WILBRAHAM STREET.—60 Flats, comprising 5 one-bedroom, 15 two-bedroom, and 40 three-bedroom types.

New Dwellings in Suburbs.

In the year 1919 the Housing Committee commenced to erect houses in the suburbs, and up to the present 25,147 houses and 415 flats have been completed.

The following table gives details relating to the districts where these houses have been erected, and the accommodation provided.

	“ A ” (Non-parlour)	“ B ” (Parlour.)	Total.
Elms House Estate	252	—	252
Larkhill Estate	476	1,828	2,304
Fazakerley Estate	1,030	410	1,440
Edge Lane Drive Estate	560	311	871
Walton-Clubmoor Estate	1,525	1,671	3,196
Springwood Estate	250	1,249	1,499
Partly developed Estates... ..	—	554	554
Woolton	77	—	77
Knotty Ash Estate	389	263	652
Highfield Estate	—	618	618
Pinehurst Road Estate	287	395	682
King Street, etc., Garston	76	—	76
Ronald Street	78	—	78
Norris Green Estate	4,724	2,965	7,689
Dovecot Estate	2,331	686	3,017
Speke Estate	286	—	286
Huyton Farm Estate	937	79	1,016
Knowsley Estate (Finch House)	840	—	840
	14,118	11,029	25,147

All these houses are completed and occupied.

At Larkhill and Springwood Estates 120 and 49 flats, respectively, have also been erected, as well as 246 flats at Speke Road Gardens, Garston.

During the same period (1919-1934), 12,410 houses have been erected by private enterprise, and of these 4,294 were eligible for subsidy under the Housing Acts of 1923 and 1924.

Re-housing in Old City Area.

The number of dwellings provided by the Corporation up to the present is 4,408, their situations and dates of opening are as follows:—

Situation.	Date opened.	Number of tenements (Including houses with shops attached).
St. Martin's Cottages	1869	124
Victoria Square	1885	270
Juvenal Dwellings.....	1891	101
Arley Street	{ 1897 } 1902/3	46
Gildart's Gardens	{ 1897 } 1904	229
Dryden Street	1901	182
Kempston Street	1902	79
Kew Street.....	1902/3	114
Adlington Street Area	1902/3	273
Stanhope Cottages	1904	60
Mill Street	1904	55
Hornby Street	{ 1904 } 1906/7	454
Clive Street and Shelley Street	1905	83
Eldon Street	1905	12
Upper Mann Street	1905/6	88
Combermere Street.....	1909	49
Burlington Street.....	1910	114
Saltney Street.....	1911	48
Grafton Street	1911	60
Bevington Street Area	1912	224
Northumberland Street Area	1913	68
St. Anne Street Area	1914	77
Gore Street	1916	24
Jordan Street	1916	31
Sparling Street	1916	16
Penrhyn Street	1921	26
Mason Street	1921	28
Blenheim Street	1923	18
Prince Edwin Street	1924	60
St. Augustine Street	1925	6
Bond Street	1925	24
Pitt Street.....	1928	48
South Hill Road	1928	198
Melrose Road	1929	260
Rankin Street	1929	46
Hopwood Street	1930	30
Holly Street.....	1931	34
Burlington Street	1931/4	163
Great Richmond Street.....	1931	21
Beloe Street	1931	69
Burnet Street	1932	16
Dingle Mount	1932	118
Kew Street.....	1932	9
Queen Anne Street	1933/4	99
Blackstock Gardens	1934	134
Trowbridge Street	1934	120
Total		4,408

Description of Flats.

Number of 1-roomed dwellings	...	...	...	...	196
Number of 2-roomed dwellings	...	...	...	...	1,481
Number of 3-roomed dwellings	...	...	...	...	1,704
Number of 4-roomed dwellings	...	...	...	...	1,027
					4,408
Number of self-contained dwellings (included in above)					173
Number of lock-up shops	...	...	...	...	27

Rentals.

The rentals of the flats vary from 2s. 9d. to 9s. 4d., and those of the self-contained cottages from 9s. 1d. to 14s. 1d. per week.

Corporation Flats (Old City Area).
Comparative Statement of Vital Statistics.

UNRESTRICTED DWELLINGS.

Population, 1931	...	...	...	...	2,102
Population, 1932	...	...	...	...	2,108
Population, 1933	...	...	...	...	2,052
Population, 1934	...	...	...	...	1,982

	1931.		1932.		1933.		1934.	
	Total.	Rate per 1,000.	Total.	Rate per 1,000.	Total.	Rate per 1,000.	Total.	Rate per 1,000.
3....	101	48.04	79	37.47	81	39.47	87	43.89
is	40	19.03	33	15.65	45	21.44	35	17.66
tile Mortality.....	10	90.09	6	75.95	8	98.76	5	57.47
aths under 1 year		per 1,000		per 1,000		per 1,000		per 1,000
Births.....	2	0.95	1	0.47	2	0.97	3	1.51
		Births.		Births.		Births.		Births.

RESTRICTED DWELLINGS.

Population, 1931	...	...	...	...	15,495
Population, 1932	...	...	...	...	16,174
Population, 1933	...	...	...	...	16,874
Population, 1934	...	...	...	...	17,853

	1931.		1932.		1933.		1934.	
	Total.	Rate per 1,000.	Total.	Rate per 1,000.	Total.	Rate per 1,000.	Total.	Rate per 1,000.
Births	475	30·65	548	32·64	495	29·33	545	30·4
Deaths	253	16·32	255	15·76	293	17·34	260	14·4
Infantile Mortality..... Deaths under 1 year	52	109·47 per 1,000 Births.	59	107·66 per 1,000 Births.	78	157·57 per 1,000 Births.	64	117· per 1, Births.
Phthisis.....	31	2·00	23	1·42	21	1·24	30	1·6

ALL DWELLINGS.

Population, 1931	...	...	...	...	17,597
Population, 1932	...	...	...	...	18,282
Population, 1933	...	...	...	...	18,926
Population, 1934	...	...	...	...	19,835

	1931.		1932.		1933.		1934.	
	Total.	Rate per 1,000.	Total.	Rate per 1,000.	Total.	Rate per 1,000.	Total.	Rate per 1,000.
Births	576	32·73	627	34·29	576	30·43	632	31·
Deaths	293	16·65	288	15·75	338	17·86	295	14·
Infantile Mortality..... Deaths under 1 year	62	107·63 per 1,000 Births.	65	103·66 per 1,000 Births.	86	149·30 per 1,000 Births.	69	109· per 1, Births.
Phthisis.....	33	1·87	24	1·31	23	1·21	33	1·

Housing Act, 1930, Section 17.

Statistics for the year ended 31st December, 1934 :—

Number of dwelling-houses inspected	...	...	2,561
Number of defects found	...	...	10,335
Number of notices issued	...	...	2,459

In the majority of cases the work has been carried out by the owners. A reference has been sent to the Town Clerk and Director of Housing, in respect to outstanding notices.

General Statistics.

Area of City	...	...	...	...	...	27,321 acres.
Estimated Population	...	...	...	...	...	866,013
Number of inhabited houses at 31st December, 1934						187,349
Number of structurally separate dwellings occupied (1931 Census)	...	...	...	...	...	173,938
Rateable value	...	...	...	...	...	£6,651,554
Sum represented by a Penny Rate	...	...	...	...	...	£23,460
Number of New Houses erected during the year :—						
(i) By the Local Authority	...	...	...	...	...	1,977
(ii) By other bodies or persons	...	...	...	...	...	3,356
Total						5,333

Housing Statistics.

1. *Inspection of Dwelling-houses during the Year.*

(1) (a) Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts)	...	...	...	...	...	87,051
(b) Number of inspections made for the purpose	...	...	...	...	...	171,447
(2) (a) Number of dwelling-houses (included under sub-head (1) above) which were inspected, and recorded under the Housing Consolidated Regulations, 1925..						41,364
(b) Number of inspections made for the purpose	...	...	...	...	...	48,931
(3) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation	...	...	...	...	...	2,168

(4) Number of dwelling-houses (exclusive of those referred to under the preceding sub-head) found not to be in all respects reasonably fit for human habitation		65,937
2. <i>Remedy of Defects during the year without Service of Formal Notices.</i>		
Number of defective dwelling-houses rendered fit in consequence of informal action by the Local Authority or their officers ...		1,206
3. <i>Action under Statutory Powers during the Year.</i>		
(a) <i>Proceedings under Sections 17, 18 and 23 of the Housing Act, 1930.</i>		
(1) Number of dwelling-houses in respect of which notices were served requiring repairs ...		2,459
(2) Number of dwelling-houses which were rendered fit after service of formal notices—		
(a) by owners		545
(b) by local authority in default of owners		Nil.
(b) <i>Proceedings under Public Health Acts.</i>		
(1) Number of dwelling-houses in respect of which notices were served requiring defects to be remedied		26,741
(2) Number of dwelling-houses in which defects were remedied after service of formal notices:—		
(a) By owners		26,741
(b) By local authority in default of owners		Nil.
(c) <i>Proceedings under Sections 19 and 21 of the Housing Act, 1930.</i>		
(1) Number of dwelling-houses in respect of which Demolition Orders were made		13
(2) Number of dwelling-houses demolished in pursuance of Demolition Orders		68

(d) *Proceedings under Section 20 of the Housing Act, 1930.*

- (1) Number of separate tenements or underground rooms in respect of which Closing Orders were made ... Nil.
- (2) Number of separate tenements or underground rooms in respect of which Closing Orders were determined, the tenement or room having been rendered fit ... Nil.

Housing of the Working Classes.

Number of houses *owned* by the Local Authority distinguishing those built in the last two years and held as under : —

Number of houses owned by the Local Authority	29,962
,, built in the last two years under :—	
1. Part III of the Housing Act, 1925 ...	3,379
2. Part II do. ...	655
3. Other powers ...	Nil.

Erection of New Houses.

The following information has been kindly supplied by the City Building Surveyor :—

Return of Houses erected 1929-1934.

Number of Rooms, (Exclusive of bathrooms, sculleries, &c.)	1929	1930	1931	1932	1933	1934
4 Rooms or less ...	1,161	612	1,547	1,558	1,526	2,902
5 or 6 Rooms ...	1,234	1,622	1,499	1,693	1,595	2,298
7 or 8 Rooms ...	183	118	132	94	148	129
9 or 10 Rooms ...	3	4	3	5	4	4
More than 10 Rooms	1	2	1	—	1	—
Totals ...	2,582	2,358	3,182	3,350	3,274	5,333

The numbers of houses which have been erected by or for the Housing Committee, and which form parts of Government-assisted schemes, during the last six years, are :—

1928 = 2,440.
1929 = 1,411.
1930 = 1,169.
1931 = 1,810.
1932 = 1,882 (includes 179 flats).
1933 = 1,402 (,, 318 ,,).
1934 = 1,977 (,, 337 ,,).

Number of Houses erected and taken down during the year 1934.

Districts.						Number Erected.	Number Taken Down.
Exchange	...	...	...	...	...	239	188
Abercromby	...	...	...	...	...	135	50
Everton	...	...	...	...	..	2	—
Kirkdale...	...	...	...	...	...	—	—
Edge Hill	...	...	...	...	...	6	—
Toxteth	...	...	...	...	...	45	18
Walton	...	...	...	...	...	477	1
West Derby	...	...	...	...	...	1,417	—
Wavertree	...	...	..	...	...	725	6
Fazakerley	...	...	...	...	...	519	—
Norris Green	...	...	...	...	..	48	—
Woolton	...	...	...	...	...	519	—
*Huyton Farm	...	...	...	...	...	361	—
*Knowsley	...	...	...	...	...	840	—
Totals...						5,333	263

Of the 5,333 dwelling-houses erected during 1934, 1,977 were built under the direction of the Housing Committee, these forming parts of Government-assisted schemes and including 337 flats.

RESIDENTIAL FLATS.—During the year 1934, 35 houses were converted into 119 residential flats, giving a net increase of 84 “new” dwelling-houses.

* Huyton Farm and Knowsley Estates are situated outside the city boundary

WELFARE OF THE BLIND.

During 1934, 358 applicants for benefits due to the blind under the Blind Persons Act, 1920, were examined by ophthalmic surgeons. Of these, 224 were found to be blind within the meaning of the Act and 134 were not blind. The corresponding figures for 1933 were 337 applicants, of whom 204 were blind.

The re-examination of partially-sighted "blind" persons when there was reason to believe that the necessary condition of blindness was not fulfilled or where there was not in existence a certificate of blindness from an ophthalmic surgeon, was continued during the year and 38 persons were re-examined. Of these 14 were found to be no longer blind and their names were removed from the register of blind persons.

In Table I is given the number of registered blind persons in Liverpool.

TABLE I.

PERSONS REGISTERED AS BLIND.

Age.	Males.	Females.	Total.
0 +	3	7	10
5 +	25	12	37
16 +	21	10	31
21 +	58	47	105
30 +	91	59	150
40 +	112	91	203
50 +	177	157	334
60 +	194	247	441
70 +	178	326	504
	<hr style="width: 50px; margin: 0 auto;"/> 859	<hr style="width: 50px; margin: 0 auto;"/> 956	<hr style="width: 50px; margin: 0 auto;"/> 1,815
	<hr style="width: 50px; margin: 0 auto;"/>	<hr style="width: 50px; margin: 0 auto;"/>	<hr style="width: 50px; margin: 0 auto;"/>

In Table II, 1,768 blind persons who are 16 years of age and over, are classified according to their ability to work, etc.

TABLE II.

BLIND PERSONS 16 YEARS OF AGE AND OVER.

	Males.	Females.	Total.
Employed	177	58	235
Trained but not employed	8	6	14
Under training	26	18	44
Trainable but not under training	14	2	16
Unemployable	606	853	1,459
	831	937	1,768

In Table III, 202 blind persons who are suffering from some other serious physical defect, or who are mentally defective, are analysed.

TABLE III.

BLIND PERSONS WHO ARE PHYSICALLY OR MENTALLY DEFECTIVE.

	Males.	Females.	Total.
Mentally defective	35	14	49
Physically defective	34	23	57
Deaf	23	46	69
Combinations of above disabilities	15	12	27
	107	95	202

CARE OF ANIMALS.

The Corporation of Liverpool makes yearly donations to the Royal Society for the Prevention of Cruelty to Animals, Liverpool Branch, and to the Liverpool Dogs' Home, on account of the work done by those institutions, and the following brief reports are therefore of interest.

LIVERPOOL CATS' SHELTERS.

During the year 1934 the total of unwanted animals received for humane destruction was 35,667, of which one-third were either diseased or injured. These figures are in excess of the large numbers recorded during the previous year. The removal of so many unwanted animals, many of which would find their way on to the public streets, is obviously a benefit to the health and good order of the city. A new motor van was purchased towards the close of the year, and is entirely employed in calling at owners' houses to remove unwanted cats and kittens. The public are particularly invited not to keep litters, unless good homes are assured. Application for a call from the collecting van should be sent to the caretaker, Liverpool Cats' Shelter, 41, Russell Street, Liverpool, 3. (Telephone : Royal, 4174.) The branch shelters are at 90, Smith Street, Kirkdale, Liverpool 4, and at 230, Mill Street, Toxteth, Liverpool, 8.

The total figure includes animals received from Bootle, Waterloo and district, as well as from the City of Liverpool.

LIVERPOOL HORSES' REST, BROADGREEN.

The pastures, loose boxes and stables, at the above, were once more fully used during 1934, not only in the grazing season, but in the winter months as well. The total number of cases received from the public was 81 horses, ponies and donkeys. A few of these animals need and receive simple treatment, but most of them come for rest and grazing, and, with the exception of a few who have to be slaughtered through age or infirmity, they invariably receive considerable benefit. A moderate fee is charged, except in special cases. Pensioners are cared for on agreed terms. Enquiries should be directed to the Society's office.

LIVERPOOL ANIMALS' HOSPITAL AND CLINIC.

During 1934 the number of attendances recorded at the premises in Larch Lea, Everton, and at the branch at 230, Mill Street, Toxteth, was 7,529, a large increase over any previous year. Only those animals are treated whose owners are unable to pay. Treatment is carried out by veterinary surgeons practising in the neighbourhood, who serve the clinic in rotation on an honorary basis. There is a resident

attendant at Larch Lea. During the year it was decided to replace the premises at Larch Lea by a new building so as to provide more adequate accommodation and equipment. The old premises were demolished and by the end of the year the new premises were approaching completion.

All the above institutions are conducted by the R.S.P.C.A., Liverpool Branch, 3, Crosshall Street, Liverpool, 1. (Tel. Central 645.)

LIVERPOOL DOGS' HOME.

The primary object of this institution is to deal with the stray dogs picked up in the streets by the police, in accordance with Act of Parliament, and the number received during 1934 under this heading was 3,707; for some years, however, the Home has provided a van for collecting unwanted animals from their owners' homes so as to reduce as far as possible any likelihood of such animals becoming waifs and strays on the streets, and the number received during 1934 under this special heading, including those brought direct to the Home by their owners, was 4,546, the total dealt with during the year, including those brought forward from 1933, being 8,345. This figure is slightly in excess of the previous year's total. Of these animals 679 were restored to their original owners, 769 were sold to good homes on strict conditions as to their purpose, and the remainder were humanely lethalised. These figures include a certain number of animals received from Bootle, Waterloo and district. Owners are urged not to allow a litter of puppies to grow up, unless good homes are assured. The services of the collecting van should be sought by sending a message to the keeper, Liverpool Dogs' Home, Liverpool, 7. (Telephone: Old Swan 1340.) There is an incinerator at the Home which is becoming increasingly used by owners as the most satisfactory method of dealing with the body of a pet. The city office is at 3, Crosshall Street, Liverpool, 1. The Liverpool Dogs' Home is not connected with any other animal society.

APPENDIX A.

CITY OF LIVERPOOL.

Vital Statistics of the Whole District during 1934 and 5 previous years.

YEAR.	Population estimated to Middle of each year.	BIRTHS.			TOTAL DEATHS REGISTERED IN THE DISTRICT.		TRANSFERABLE DEATHS. ‡		NETT DEATHS BELONGING TO THE DISTRICT.			
		Uncor- rected Number.	Nett.						Under 1 year of age.		At all ages.	
			Number.	Rate.	Number.	Rate.	Number.	Rate per 1000 Nett Births.	Number. *	Rate.		
1	2	3	4	5	* 6	7	8	9	* 10	11	* 12	13
1929.....	848873	19162	18888	22·2	13781	16·2	1048	448	1822	96	13181	15·5
1930.....	852669	19199	18881	22·1	11882	13·5	993	399	1544	82	11288	12·8
1931.....	856483	18973	18626	21·7	13024	15·2	1138	357	1740	93	12243	14·3
1932.....	861935	18548	18149	21·0	12044	13·9	1038	364	1646	91	11370	13·2
1933.....	866013	17457	16929	19·5	13076	15·1	1032	400	1655	98	12444	14·4
1934.....	866013	18244	17593	20·3	12016	13·9	1062	365	1418	81	11319	13·1

NOTES.—This Table is arranged to show the gross births and deaths registered in the district during the calendar year, and the births and deaths properly belonging to it with the corresponding rates. The rates should be calculated per 1,000 of the estimated gross population as stated in Column 2, without the use of the standardising factor for the district given in the Annual Report of the Registrar-General. In a district in which large Public Institutions for the sick or infirm seriously affect the Statistics, the rates in Columns 5 and 13 may be calculated on a net population, obtained by deducting from the estimated gross population the average number of inmates not belonging to the district in such institutions.

* In Column 6 are included the whole of the deaths registered during the calendar year as having actually occurred within the district.

In Column 12 is entered the number in Column 6, corrected by subtraction of the number in Column 8 and by addition of the number in Column 9. Deaths in Column 10 are similarly corrected by subtraction of the deaths under 1, included in the number given in Column 8, and by addition of the deaths under 1 included in the number given in Column 9.

‡“Transferable Deaths” are deaths of persons who, having a fixed or usual residence in England or Wales, die in a district other than that in which they resided. The deaths of persons without fixed or usual residence, *e.g.*, casuals, are not included in Columns 8 or 9, except in certain instances under 3 (b) below. In Column 8 the number of transferable deaths of “non-residents” are deducted, and in Column 9 the number of deaths of “residents” registered outside the district are added in calculating the net death-rate of the district.

The following special cases arise as to Transferable Deaths :—

(1) Persons dying in Institutions for the sick or infirm, such as hospitals, lunatic asylums, workhouses, and nursing homes (but not almshouses) must be regarded as residents of the district in which they had a fixed or usual residence at the time of admission. If the person dying in an Institution had no fixed residence at the time of admission, the death is not transferable. If the patient has been directly transferred from one such institution to another, the death is transferable to the district of residence at the time of admission to the first Institution.

(2) The deaths of infants born and dying within a year of birth in an Institution to which the mother was admitted for her confinement should be referred to the district of fixed or usual residence of the parent.

(3) Deaths from violence are to be referred (a) to the district of residence, under the general rule ; (b) if this district is unknown, or the deceased had no fixed abode, to the district where the accident occurred, if known ; (c) failing this, to the district where death occurred, if known ; and (d) failing this, to the district where the body was found.

Area of District in acres }
(land and inland } 27,321.
water) }

Total population at all ages855,688 } At Census
No. of structurally separate dwellings occupied...173,938 } of
1931

APPENDIX B.

CITY OF LIVERPOOL.

Birth-Rates, Death-Rates, and Analysis of Mortality during the year 1934.

England and Wales, 121 County Boroughs and Great Towns, and 135 Smaller Towns.

(Provisional figures. The rates for England and Wales, have been calculated on a population estimated to the middle of 1934, but those for London and the towns have been calculated on populations estimated to the middle of 1933.)

	Rate per 1,000 Population.		Annual Death-Rate per 1,000 Population.										Rate per 1,000 Live Births.		Percentage of Total Deaths.		
	Live Births.	Still-births.	All Causes.	Typhoid and Paratyphoid Fevers.	Small-pox.	Measles.	Scarlet Fever	Whooping Cough.	Diphtheria.	Influenza.	Violence.	Diarrhoea and Enteritis (under two years).	Total Deaths under one year.	Certified by Registered Medical Practitioners.	Inquest Cases.	Certified by Coroner after P.M. No Inquest.	Uncertified Causes of Death.
England and Wales ...	14·8	0·62	11·8	0·00	0·00	0·09	0·02	0·05	0·10	0·14	0·54	5·5	59	90·4	6·5	2·1	1·0
121 County Boroughs and Great Towns, including London ...	14·7	0·66	11·8	0·00	0·00	0·12	0·02	0·06	0·11	0·12	0·47	7·4	63	90·5	6·1	2·9	0·5
135 Smaller Towns (Estimated Resident Populations 25,000 to 50,000 at Census 1931) ...	15·0	0·67	11·3	0·00	0·00	0·07	0·02	0·04	0·09	0·14	0·42	3·6	53	91·2	6·1	1·6	1·1
London ...	13·2	0·50	11·9	0·00	0·00	0·20	0·02	0·07	0·11	0·12	0·56	12·6	67	87·7	6·3	6·0	0·0
*Liverpool ...	20·3	0·79	13·1	0·00	0·00	0·26	0·02	0·20	0·20	0·13	0·46	8·7	81	93·0	4·7	1·9	0·4

The maternal mortality rates for England and Wales are as follows :

Puerperal Sepsis.	Others.	Total.
per 1,000 Live Births ...	2·03	2·57
,, ,, Total Births ...	1·95	2·46
		4·60
		4·41

* The rates for Liverpool have been calculated on a population estimated locally to the middle of 1934.

APPENDIX C.

CITY OF LIVERPOOL.

Causes of, and ages at, Death during the year 1934.

Causes of Death.	NET DEATHS AT THE SUBJOINED AGES OF "RESIDENTS" WHETHER OCCURRING WITHIN OR WITHOUT THE DISTRICT.									Total Deaths in Institutions in Liverpool District, whether of "Residents" or "non-Residents."
	All ages.	Under 1 year.	1 and under 2 years.	2 and under 5 years.	5 and under 15 years.	15 and under 25 years.	25 and under 45 years.	45 and under 65 years.	65 and up-wards.	
All Causes { Certified	11272	1404	426	372	376	522	1277	2980	3915	6984
Uncertified	47	14	1	—	1	1	3	13	14	3
1. Typhoid and Paratyphoid Fevers	—	—	—	—	—	—	—	—	—	—
2. Measles	229	44	109	65	9	—	1	1	—	115
3. Scarlet Fever	19	1	2	2	9	1	2	1	1	17
4. Whooping Cough	172	59	67	42	4	—	—	—	—	106
5. Diphtheria	177	2	12	65	90	3	4	1	—	184
6. Influenza	116	7	3	3	2	6	19	34	42	29
7. Encephalitis Lethargica	24	—	—	—	1	4	11	7	1	14
8. Cerebro-spinal Fever	37	17	6	4	5	1	3	1	—	43
9. Tuberculosis of Respiratory System ...	867	3	4	6	16	214	348	238	38	490
10. Other Tuberculous Diseases	129	13	11	24	25	29	17	9	1	128
11. Syphilis	37	8	—	—	—	1	9	14	5	35
12. General Paralysis of the Insane	27	—	—	—	—	1	9	17	—	7
13. Cancer	1276	—	1	1	—	7	112	625	530	837
14. Diabetes	84	—	—	—	3	3	6	24	48	63
15. Cerebral Haemorrhage	483	—	—	—	—	1	14	185	283	288
16. Heart Disease	2057	—	—	—	25	38	151	601	1242	925
17. Aneurysm	16	—	—	—	—	1	2	11	2	6
18. Other Circulatory Diseases	608	1	—	—	1	1	8	157	440	274
19. Bronchitis	358	47	5	8	3	7	25	84	179	120
20. Pneumonia (all forms)	1204	295	135	79	44	37	134	260	220	791
21. Other Respiratory Diseases	114	5	2	2	2	5	14	35	49	73
22. Peptic Ulcer	104	1	—	—	—	3	28	58	14	107
23. Diarrhoea, etc.	183	135	19	6	3	2	4	8	6	129
24. Appendicitis	37	1	—	1	6	2	11	12	4	40
25. Cirrhosis of Liver	16	—	—	—	—	—	2	10	4	16
26. Other Diseases of Liver	49	1	—	—	—	1	9	19	19	43
27. Other Digestive Diseases	174	14	5	9	5	10	24	62	45	151
28. Acute and Chronic Nephritis	397	1	—	1	8	12	46	151	178	212
29. Puerperal Sepsis	25	—	—	—	—	3	22	—	—	27
30. Other Puerperal Causes	26	—	—	—	—	4	22	—	—	22
31. Congenital Debility, Premature Birth, Malformations, etc.	696	601	4	1	—	—	—	—	—	383
32. Senility	325	—	—	—	—	—	—	13	312	212
33. Suicide	102	—	—	—	—	8	33	45	16	23
34. Other Violence	295	18	8	26	34	39	53	70	47	192
35. Other Defined Causes	936	144	33	27	81	78	136	238	199	877
36. Causes Ill-defined or unknown.....	10	—	1	—	1	1	1	2	4	8
TOTALS	11319	1418	427	372	377	523	1280	2993	3929	6987

APPENDIX D.

CITY OF LIVERPOOL.

Infant Mortality during the year 1934.

Net Deaths from stated Causes at various Ages under One Year of Age.

CAUSE OF DEATH.							Under 1 Week.	1 Week and under 2 Weeks.	2 Weeks and under 3 Weeks.	3 Weeks and under 4 Weeks.	Total under 4 Weeks.	4 Weeks and under 3 Months.	3 Months and under 6 Months.	6 Months and under 9 Months.	9 Months and under 12 Months.	Total Deaths under One Year.
All Causes.	Certified	...	...	...	...	...	392	71	58	38	559	247	229	187	182	1404
	Uncertified	...	...	...	...	...	11	—	—	—	11	2	1	—	—	14
Chicken-pox	...	...	...	...	...	...	—	—	—	—	—	—	—	1	—	1
Measles	...	...	...	...	...	...	—	—	—	—	—	—	1	17	26	44
Scarlet Fever	...	...	...	...	...	...	—	—	—	—	—	—	—	—	1	1
Whooping Cough	...	...	...	...	...	...	—	—	—	1	1	7	16	19	16	59
Diphtheria	...	...	...	...	...	...	—	—	—	—	—	—	1	1	—	2
Cerebro Spinal Fever	...	...	...	...	...	...	—	—	—	—	—	2	6	5	4	17
Influenza	...	...	...	...	...	...	—	—	—	1	1	—	3	2	1	7
Erysipelas	...	...	...	...	...	...	—	—	—	—	—	5	1	2	2	10
Pulmonary Tuberculosis	...	...	...	...	...	...	—	—	—	—	—	—	1	—	2	3
Tuberculous Meningitis	...	...	...	...	...	...	—	—	—	—	—	—	3	1	4	8
Abdominal Tuberculosis	...	...	...	...	...	...	—	—	—	—	—	—	—	1	—	1
Other Tuberculous Diseases	...	...	...	...	...	...	—	—	—	—	—	—	2	1	1	4
Meningitis	...	...	...	...	...	...	—	—	1	—	1	2	2	5	3	13
Convulsions	...	...	...	...	...	...	10	—	—	1	11	4	3	1	5	24
Laryngitis	...	...	...	...	...	...	—	—	—	—	—	—	—	—	—	—
Bronchitis	...	...	...	...	...	...	—	2	3	3	8	16	6	10	7	47
Pneumonia (all forms)	...	...	...	...	...	...	8	6	11	6	31	62	75	62	65	295
Diarrhoea	...	...	...	...	...	...	—	—	1	—	1	5	7	3	2	18
Enteritis	...	...	...	...	...	...	—	4	4	1	9	29	34	28	17	117
Other Diseases of Stomach	...	...	...	...	...	...	—	—	—	—	—	1	1	—	1	3
Syphilis	...	...	...	...	...	...	1	—	2	—	3	4	1	—	—	8
Rickets	...	...	...	...	...	...	—	—	—	—	—	—	2	—	1	3
Suffocation	...	...	...	...	...	...	1	1	1	—	3	—	1	—	1	5
Injury at Birth	...	...	...	...	...	...	30	2	—	—	32	2	—	—	—	34
Atelectasis	...	...	...	...	...	...	39	—	—	—	39	1	—	—	—	40
Malformations	...	...	...	...	...	...	30	10	10	4	54	16	3	2	2	77
Premature Birth	...	...	...	...	...	...	242	31	17	14	304	34	7	—	—	345
Atrophy, Debility and Marasmus...	...	...	...	...	...	...	17	5	1	4	27	35	17	2	1	82
Other Causes	...	...	...	...	...	...	25	10	7	3	45	24	37	24	20	150
							403	71	58	38	570	249	230	187	182	1418

Net Births in the year { Legitimate .. 16,814
 { Illegitimate ... 779

Net Deaths in the year of { Legitimate Infants 1,287
 { Illegitimate Infants 131

APPENDIX E.

CITY OF LIVERPOOL.

Notifiable Diseases (other than Tuberculosis) during the Year 1934.

DISEASE.	NUMBER OF CASES NOTIFIED.													Cases admitted to Hospital	TOTAL. DEATHS
	At all Ages.	At Ages—Years													
		Under 1—	1—	2—	3—	4—	5—	10—	15—	20—	35—	45—	65—		
Small-pox	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Scarlet Fever	3574	29	112	193	278	293	1596	666	156	196	39	15	1	2432	19
Diphtheria	2913	27	79	171	257	280	1167	492	152	229	39	18	2	2803	177
Enteric Fever (including Para- typhoid)	23	—	1	—	1	—	3	3	7	5	—	3	—	22	—
Puerperal Fever	43	—	—	—	—	—	—	—	3	34	6	—	—	37	25
Puerperal Pyrexia	278	—	—	—	—	—	—	—	18	213	47	—	—	246	—
Pneumonia	2428	205	237	160	127	100	335	143	155	342	172	334	118	1193	506
Cerebro-spinal Fever	69	24	9	4	6	1	6	5	4	8	—	2	—	68	37
Poliomyelitis and Polioencephalitis ..	9	2	1	1	2	—	1	1	—	—	—	1	—	9	3
Encephalitis Lethargica	30	—	—	—	—	—	1	—	3	11	7	6	2	19	24
Dysentery	7	—	—	—	—	1	4	1	1	—	—	—	—	7	2
Ophthalmia Neonatorum	695	695	—	—	—	—	—	—	—	—	—	—	—	227	—
Erysipelas	819	27	10	7	8	6	31	33	45	137	118	290	107	453	54
Malaria	18	—	—	—	—	—	—	—	1	8	6	3	—	6	2
Anthrax	2	—	—	—	—	—	—	—	—	1	—	1	—	2	—
*Measles	11055	676	1215	1175	1099	1201	4562	725	164	183	40	9	6	820	229
*Chickenpox	2715	90	88	107	132	114	1990	142	25	20	5	1	1	110	—
TOTALS	24678	1775	1752	1818	1910	1996	9696	2211	734	1387	479	683	237	8454	1078

* Voluntarily notifiable.

DEATHS REGISTERED IN THE CITY OF LIVERPOOL
DURING THE YEAR 1934

